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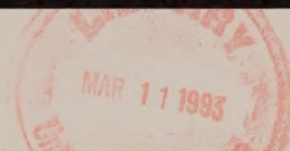


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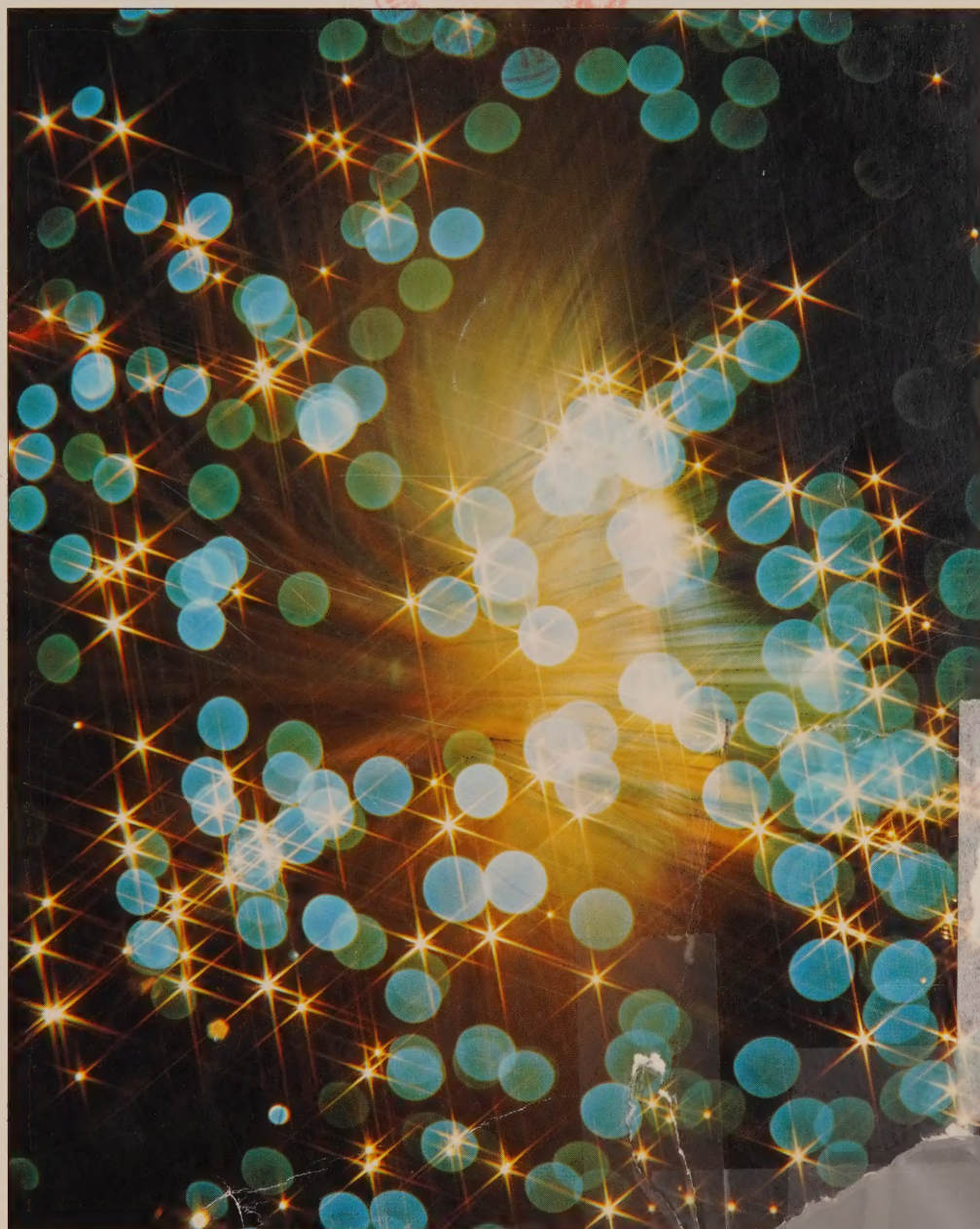
# PERSPECTIVES

ON LABOUR AND INCOME



SPRING 1993

- '92 IN REVIEW
- MOTHERS IN THE LABOUR MARKET
- SHIFT WORK
- WOMEN IN ACADEMIA
- FACING RETIREMENT
- ABOUT PRODUCTIVITY
- RRSP UPDATE



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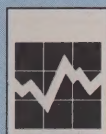
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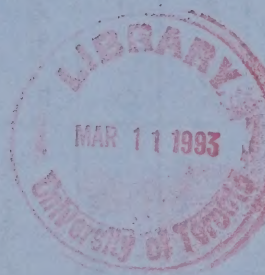
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Reference period	Help-wanted Index	Labour Force Survey	Consumer Price Index	Unemployment Insurance	Employment Earnings and Hours	Gross Domestic Product	Composite Leading Indicator
January	February 3	February 5	February 19	March 31	March 29	March 31	February 11
February	March 10	March 12	March 19	April 28	April 29	April 30	March 17
March	April 7	April 8	April 21	May 26	May 28	May 31	April 15
April	May 5	May 7	May 20	June 30	June 28	June 30	May 12
May	June 2	June 4	June 18	July 28	July 29	July 30	June 10
June	July 7	July 9	July 15	August 25	August 25	August 31	July 14
July	August 4	August 6	August 20	September 29	September 30	September 30	August 11
August	September 8	September 10	September 17	October 27	October 29	October 29	September 15
September	October 6	October 8	October 21	November 24	November 29	November 30	October 14
October	November 3	November 5	November 23	Décembre 23	Décembre 23	Décembre 24	November 10
November	Décember 1	Décember 3	Décember 17	January 26, 1994	January 31 1994	January 31 1994	December 15





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Catalogue 75-001E

**PERSPECTIVES**  
ON LABOUR AND INCOME

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I have read ... and on a scale of 1 (not useful) to 5 (very useful), found it ...

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Spring 1993  
Vol. 5, No. 1



Years of Ans  
Excellence d'excellence

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# PERSPECTIVES

ON LABOUR AND INCOME

## Articles

### SUPPLEMENT

#### The labour market: Year-end review

Philip Cross

*By the end of 1992, a recovery appeared to be increasing its hold on the Canadian economy. A firming of employment and a pick-up in real wages helped to fuel higher household spending in the second half of the year. However, these positive developments were not enough to prevent the annual average unemployment rate from rising to a nine-year high of 11.3 %.*

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Mary Sue Devereaux and Colin Lindsay

*This article outlines trends since the mid-1970s in the labour market activity of female lone parents. Comparisons are made with wives in two-parent families.*

#### 16 Working shift

Deborah Sunter

*This article assesses the occurrence of non-standard work schedules by selected characteristics of shift workers and their main reasons for working shift.*

#### 24 Women in academia – a growing minority

Judy Lee

*This study analyses growth in the number of women teaching full time at Canada's universities, from 1960 onwards.*

# PERSPECTIVES

ON LABOUR AND INCOME

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*An up-to-date look at RRSP contributions and benefits.*

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## Forum

### From the editor

■ March 8 is International Women's Day and it therefore seems appropriate that two articles in this issue focus on women. "Women in academia – a growing minority" assesses the progress women have made in one of the most prestigious professions in the country. In contrast, "Female lone parents in the labour market" focuses on a group whose labour force attachment may be tenuous and whose financial resources often place them among the most economically disadvantaged Canadians. Another two articles do not specifically address women's experiences but do nevertheless reflect their concerns. Women's family responsibilities definitely directed some of the analysis in "Working shift," while "Facing retirement" illustrates the gap between men and women in employer-sponsored pension plan coverage.

Past *Perspectives* articles about women have garnered considerable attention, either because they helped to quantify the dimensions of an issue for the first time, or because they quantified it at the national level for the first time. In the Summer 1992 issue, "Alimony and child support" used tax data to analyze the extent of women's and children's dependence on support payments from former spouses. At the other end of the spectrum, "Women and RRSPs" (Winter 1991) and "Women's earnings and family incomes" (Summer 1991) chronicled the steps many women are taking to ensure a

more secure future by becoming more independent financially. Such articles reflect contemporary labour market reality: one cannot develop an adequate understanding of the labour market and employment income without looking at topics that are either about, or highly relevant to, women.

Having said this, we have not done as much as we would wish in two areas that are important to men as well as women. The first is balancing work and family responsibilities; the second is unpaid work – in the home or the community – and how it interacts with paid work. We look forward to rectifying this when new datasets become available. For example, we should be able to start working with results from the 1992 General Social Survey on time use this year.

Readers are urging us to do more in other areas too, as we are learning from the questionnaire distributed with the Autumn 1992 issue. The response was very good – articulate and helpful – and readers provided specific suggestions that we can act on.

Many readers would like to see more provincial and regional data and more industry-specific articles. With the 1991 Census data, a rich lode of statistics is opened up for analysis of industries, occupations and geographic regions at a level of detail that cannot be matched by other labour market surveys (the monthly Labour Force Survey and the annual Survey of Consumer Finances, for example). Studies on youths, older workers and part-

time employment are in the works, as is a special *Perspectives* issue on education and training.

Readers also asked for more articles on unionization and pay equity. More robust datasets are being developed in these fields, and we will use them when they become available. The matching of jobs with workers was another popular request; however, this topic is somewhat problematic when studying workers who have been in the labour force for some time. Nevertheless, we may do some work with the longitudinal surveys that track the occupations of recent postsecondary graduates to determine whether or not their jobs relate to their field of study.

We would like to thank everyone who took the time to commit their thoughts to paper. Now that we are including the readership questionnaire in every issue, we hope that "talking" to us will become a regular habit.

Ian Macredie  
Editor-in-Chief



**We welcome your views** on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-D Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6. Telephone (613) 951-0178; fax (613) 951-4179.



## Highlights

*Here are some key findings from the articles in this issue of Perspectives on labour and income.*

### Female lone parents in the labour market

■ In recent years, few segments of Canadian society have grown faster than lone-parent families headed by women. From 1976 to 1991, the number of women who had children under age 16 and were parenting alone increased by 66% to 444,000.

■ Not only are women parenting alone less likely than wives in two-parent families to be in the labour force, but among those who are participants, unemployment is high. In 1991, the unemployment rate of female lone parents was 16.8%, compared with 9.6% for wives.

■ Unemployment rates are especially high among lone parents with pre-school age children. In 1991, the rate for female lone parents with children under 6 was 22.6%, compared with 13.8% among those with children aged 6 to 15.

■ In 1991, just 52% of female lone parents were employed compared with 65% of wives in two-parent families. This was a change from 1976, when the proportion of female lone parents with jobs was substantially higher than that of wives.

### Working shift

■ Almost one in four full-time employees worked shift in 1991 (that is, they did not work regular daytime hours). Shift work was slightly more common among male than female full-time workers (25% compared with 21%), but men were more likely to have pre-arranged schedules. Only 27% of male shift workers had irregular schedules, compared with 36% of women.

■ The constant need for police, fire protection and health care is reflected in the high shift rates for protective and health occupations. Among full-time workers, almost 70% of police officers, firefighters and security guards, and 50% of health workers, worked shift.

■ Among full-time workers who gave a reason for working shift, about 89% of men and 83% of women did so because it was required by the job. Only 6% of women and almost no men chose to work shift because of child care or family responsibilities. A similarly small proportion of men and women (4%) worked shift to earn more money.

■ About 6 in 10 part-time employees are shift workers, and the majority of them have schedules that are not set in advance. In 1991, just over 40% worked irregular schedules and an additional 18% worked on call; another 20% had regular evening hours, and 2% worked regular nights.

■ Over half of the part-time shift workforce is under the age of 25. Three-quarters of workers aged 15 to 24 were on part-time shifts; not surprisingly, the great majority (84%) were students.

### Women in academia – a growing minority

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■ Even by 1989, women made up only a minority of university teachers. That year, the 7,200 women teaching full time on Canadian campuses were vastly outnumbered by male faculty members who totalled almost 30,000.

■ For the last 20 years, four fields – humanities, health, education, and social sciences – accounted for approximately 80% of all female faculty. By contrast, in 1989, only 1% were in engineering and applied sciences, and fewer than 5% were in mathematics and physical sciences.

■ The proportion of female faculty with doctorates is markedly lower than the corresponding figure for male faculty: in 1989, 52% of women teaching at the university level held PhDs, compared with 71% of men.

■ Female university teachers are less likely than men to be close to retirement. In 1989, 13% of female faculty were aged 55 or older, compared with 23% of male faculty.

■ In 1989, only 7% of all full professors, but half of lecturers and instructors, were women. In engineering and applied sciences, women comprised fewer than 1% of full professors, but 15% of lecturers and instructors. Even in education, the faculty with the highest proportion of female staff, just 15% of full professors were women versus 61% of lecturers and instructors.

■ The concentration of women at lower ranks explains most of the gender variations

in earnings, as university salaries are scaled according to rank. In 1989, the median salary of female faculty overall was just under 80% of what their male counterparts received. However, most of this difference disappears when teachers of equal rank in the same field are compared.

### Facing retirement

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■ Almost 3 million Canadian workers aged 45 to 64 will retire over the next two decades. In 1991, 55% of them participated in pension plans through employment.

■ Pension plan coverage differs markedly by sex: 60% of male workers aged 45 to 64 can expect to receive company pensions upon retirement, while only 48% of their female colleagues enjoy the same security. This disparity can be explained by the fact that 25% of women work part time.

■ As of 1991, over two-thirds of all working Canadians aged 45 to 64 had contributed to registered retirement savings plans (RRSPs). Participation rates were highest among workers with personal incomes of \$40,000 or more (79%), yet half of workers making less than \$20,000 had RRSP savings.

■ For many workers, the most important capital asset is the equity invested in their homes. In 1991, 8 in 10 working Canadians aged 45 to 64 owned their homes. Two-thirds of these homeowners were mortgage free.

■ On the whole, working Canadians aged 45 to 64 seem to be heading towards retirement with reasonably solid financial security. The majority have private pension plans, RRSPs, and own their homes. On the other hand, many pre-retirees do not enjoy such favoured circumstances, and probably will not achieve them before retiring.



## About productivity

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■ Productivity is one component of economic growth and is often used to compare a country's performance with that of another. The productivity index is produced for the business sector.

■ During the 1980s, the average annual rate of growth of labour productivity held at around 1.4%. This contrasted with the 1961 to 1975 period, when the growth rate was more than twice as high.

■ At the onset of the recent recession, labour productivity dropped 1.2% between 1989 and 1990, the biggest decline since Statistics Canada began estimating this measure in 1946. However, as the recession progressed into 1991, there was an upturn in the index, which increased by 1.8%.

■ Historically, the productivity growth rate in the goods sector has always been higher than in the services sector. The gap has nevertheless narrowed since the beginning of the 1980s. Over a period of 30 years (1961 to 1991), the four industries with the highest average annual growth rates were communications (5.8%), agriculture (3.9%), transportation and storage (2.8%), and manufacturing (2.7%).

■ Manufacturing seems to have adjusted rather fast to the recent recessionary conditions that have depressed demand for its products. In 1990, the labour productivity index showed a slight improvement over 1989 (0.9%) followed by a relatively high increase of 1.3% between 1990 and 1991.

## Note on RRSP contributions and payouts

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■ In 1991, the number of RRSP contributors increased 14%. Contributions grew a remarkable 30% – the largest annual increase in 15 years.

■ While income from RRSPs (as cash withdrawals and annuity payments) increased at annual rates of about 14% between 1988 and 1990, the amount paid out in 1991 was 23% greater than the previous year.

## What's new ?

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■ Four 1991 Census publications addressing specific aspects of the Canadian labour market have just been released: *Labour force activity*, *Labour force activity of women by presence of children*, *Industry and class of worker* and *Occupation*. In April, two census publications on income will be released: *Selected income statistics* and *Employment income by occupation*.

■ The 1991 *Census tabulation guide*, an electronic index of all data tables published by the 1991 Census of Population, is available on diskette. This reference tool details the contents of tables, and the geographic detail at which the data are available.

■ An updated edition of the *Postal Code Conversion File* (PCCF) is available. The PCCF is an electronic geographic code linkage file that matches postal codes to census enumeration areas. This allows administrative data to be linked to census data (and vice versa) for any neighbourhood or small area.

■ Data on recent trends in work-related education are now available from the 1992 Adult Education and Training Survey.

■ Two new reports explore the situation of women in the 1990s. *Lone-parent families in Canada* looks at the rising number of families with one parent and *Women in the workplace*, second edition examines the labour force experiences of working women.

■ The Institut de recherche et d'information sur la rémunération has published its most recent report on trends in public sector pay and benefits in Québec. *La décennie 80: qu'en est-il du pouvoir d'achat des salariés du secteur public québécois?* is available from the Institut.

■ The Survey of Persons Not in the Labour Force will collect comprehensive data on Canadians who are neither working nor looking for work.

■ The national Survey of Family Expenditures obtained detailed accounts of spending on goods and services from households across Canada for the 1992 calendar year, as well as information about changes in assets and debts.

■ Employment and Immigration Canada is funding the Self-Sufficiency Project to test the effectiveness of earnings supplements as a way to increase the labour force participation of social assistance recipients. □



# Female lone parents in the labour market<sup>1</sup>

Mary Sue Devereaux and Colin Lindsay

**T**he changing structure of the family in Canada is evident in the rising number of lone-parent families, most of them headed by women. And although lone parenthood tends to be a temporary state,<sup>2</sup> for many women this period is likely to be a time of financial hardship. Female lone parents, in fact, are among the most economically disadvantaged Canadians.

In 1990, 59% of all families headed by women parenting alone were below the low income cut-offs.<sup>3</sup> In part, this was because only about half of these women were employed,<sup>4</sup> well below the proportion for other parents. And among those who worked, many had low-paying jobs.

This article outlines trends in the labour market activity of female lone parents since the mid-1970s. It focuses on comparisons with mothers in two-parent families and on the factors affecting lone parents' labour force participation.

## A fast-growing group

In the recent past, few segments of Canadian society have grown faster than lone-parent

families headed by women. From 1976 to 1991, the number of women who had children under age 16 and were parenting alone increased 66% from 267,000 to 444,000. There was a particularly sharp rise among those with children younger than age 6,<sup>5</sup> their ranks almost doubling from 96,000 to 190,000. Female lone parents whose youngest child was aged 6 to 15 also increased, but more slowly (up 48%), from 171,000 to 254,000.

While lone-parent families headed by women were still vastly outnumbered by husband-wife families<sup>6</sup> with children under age 16, the same period saw a slight overall decline in the latter (from 2.8 million to 2.7 million). As a result, female-headed lone-parent families accounted for a larger proportion of all families with children under age 16 in 1991 than in 1976: 14% versus 8%.

## Personal characteristics differ

Women parenting alone tend to be younger and to have less formal education than wives in two-parent families (Table 1). But female lone parents are not a homogeneous group. While close to a third of them became lone parents as a result of an out-of-wedlock birth, for the majority lone parenthood stemmed from a marriage break-up (Table 2). As well, although over a third had not graduated from high school, almost as many were community college or university graduates.

---

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**Table 1**  
**Characteristics of female lone parents and wives in two-parent families, by age of youngest child, 1991**

	Female lone parents			Wives in two-parent families		
	Total	Age of youngest child		Total	Age of youngest child	
		Less than 6 years	6-15 years		Less than 6 years	6-15 years
	'000					
<b>Total</b>	<b>444</b>	<b>190</b>	<b>254</b>	<b>2,716</b>	<b>1,356</b>	<b>1,360</b>
	%					
<b>Age</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
15-24 years	12	27	--	5	10	--
25-34 years	42	56	32	43	66	20
35-44 years	38	17	54	44	23	64
45 years and over	8	--	13	8	1	15
<b>Education</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
0-8 years	9	7	9	6	4	8
Some secondary	27	33	23	17	15	19
Completed secondary	22	24	21	28	29	27
Some postsecondary	10	10	11	9	9	8
Postsecondary certificate or diploma	24	21	26	28	29	27
University degree	8	5	10	12	14	11
Labour force participation rate	63	50	72	72	66	77
Employment/population ratio	52	39	62	65	59	70
Proportion working part time	19	26	17	29	32	27
Unemployment rate	16.8	22.6	13.8	9.6	10.7	8.7

Source: Labour Force Survey

Therefore, some lone parents, usually those in the younger age groups, are single mothers with relatively little education. Their labour force prospects are restricted not only by the presence of children, but also by their lack of training, work skills, and experience. On the other hand, a substantial share of female lone parents – typically somewhat older, and usually divorced or separated – have postsecondary credentials. These women are often better qualified to participate in the labour market.

Thus, the labour force activity of female lone parents can vary, depending on the characteristics of the women involved. Nonetheless, the main factor affecting female lone parents' participation in the job market is the age of their children.

### Low labour force participation

Women parenting alone are less likely to be in the labour force than are wives in two-parent families. In 1991, the labour force participation rate of female lone parents was 63%. The corresponding figure for wives in



Table 2  
**Characteristics of female lone parents by age, 1991**

	Total	Age group			
		15-24	25-34	35-44	45 and over
		'000			
<b>Total</b>	<b>444</b>	<b>52</b>	<b>188</b>	<b>170</b>	<b>35</b>
		%			
	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Marital status</b>					
Single	30	78	37	12	--
Separated or divorced	60	17	56	77	67
Widowed	6	--	3	7	24
Married*	4	--	4	4	--
<b>Age of youngest child</b>					
Less than 6 years	43	96	57	19	--
6-15 years	57	--	43	81	97
<b>Education</b>					
0-8 years	9	7	8	8	19
Some secondary	27	48	32	17	18
Completed secondary	22	25	22	24	11
Some postsecondary	10	9	11	10	11
Postsecondary certificate or diploma	24	12	23	29	26
University degree	8	--	4	13	15

Source: Labour Force Survey

\* Includes women who perceived themselves as married although no spouse was present.

two-parent families was 72%. This was a considerable change from 1976, when the labour force participation rate of female lone parents substantially exceeded that of wives (53% compared with 42%).

Regardless of the presence of a spouse, women with pre-school age children tend to have lower labour force participation rates than do those with older children. This tendency, however, is more pronounced among lone parents. In 1991, half of female lone parents with children under age 6 were in the labour force, compared with 72% of those whose youngest child was aged 6 to 15. The corresponding figures for wives were 66% and 77%.

To some extent, educational attainment lessens the effect of young children on

lone parents' labour force participation. For example, in 1991, the participation rates of female lone parents with university degrees were 79% for those with pre-school age children and 87% among those whose youngest child was aged 6 to 15. And at this level of education, the participation rates of lone parents were virtually the same as those of wives in two-parent families.

The reasons why female lone parents did not participate in the labour force also reflect the influence of young children. In 1991, 30% of non-participant lone parents with children younger than age 6 had left their last job because of personal or family responsibilities. However, those with children aged 6 to 15 cited personal or family responsibilities less frequently (8%).

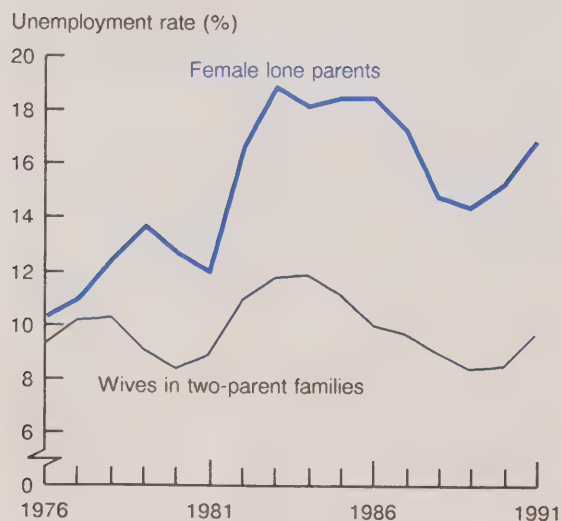
## High unemployment

Not only are a relatively large number of female lone parents out of the labour force, but among those who are participants, unemployment is higher than among wives in two-parent families. In 1991, the unemployment rate of lone parents was 16.8%, compared with 9.6% for wives. As well, this difference of more than 7 percentage points was much wider than the 1 percentage point gap that separated the two groups in 1976 (Chart A).

Unemployment rates are especially high among lone parents with pre-school age children. In 1991, the rate for female lone parents with children under age 6 was 22.6%, compared with 13.8% for those with children aged 6 to 15. Unemployment rates of wives in two-parent families did not differ so sharply with the ages of their children; the gap in 1991 amounted to just 2 percentage points: 10.7% versus 8.7%.

Chart A

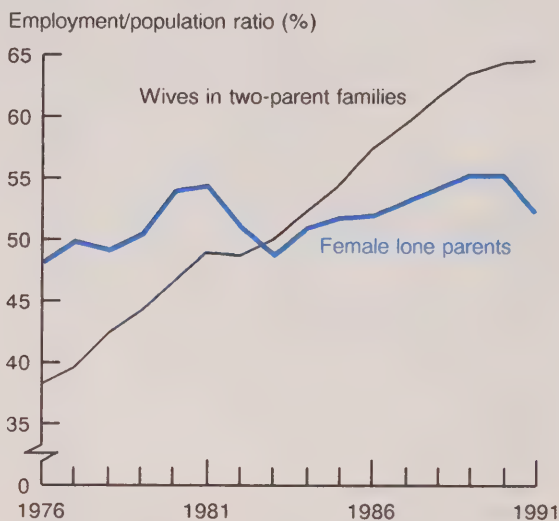
**The gap between the unemployment rates of female lone parents and wives has widened in recent years.**



Source: Labour Force Survey

Chart B

**Since 1983, female lone parents have been less likely than wives to be employed.**



Source: Labour Force Survey

## Less likely to be employed

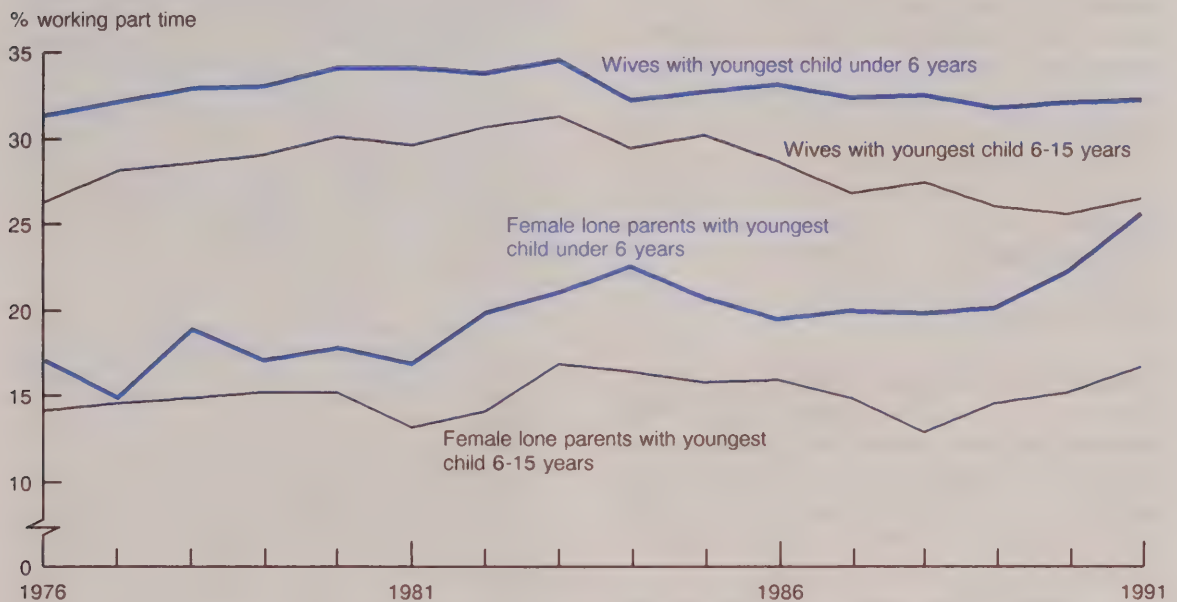
The combination of low labour force participation and high unemployment means that relatively few female lone parents are employed. In 1991, their employment/population ratio was 52%, compared with 65% for wives in two-parent families.<sup>7</sup> This was a change from 1976 when the ratio for lone parents was substantially higher than that of wives (Chart B).

The presence of young children in any family appears to reduce the likelihood that the mother will be employed. Again, the effect is much greater on lone parents than on wives. In 1991, the employment/population ratio of female lone parents with children under age 6 was 39%, compared with 59% for wives in two-parent families.



Chart C

The rate of part-time work among female lone parents with young children has risen substantially.



Source: Labour Force Survey

## Part-time work

While a considerable number of lone parents are not working, those who are employed are less likely than wives in two-parent families to have part-time jobs.

In 1991, just 19% of employed female lone parents worked part time, while the corresponding proportion for wives was 29%. However, since 1976, there has been a gradual rise in the rate of part-time work among female lone parents. Over the same period, the percentage of employed wives with part-time jobs did not change substantially.

Part-time work is most prevalent among women with young children. And for lone parents, the presence of pre-school age children has been increasingly associated

with working part time. By 1991, 26% of employed female lone parents with children younger than age 6 were part-timers, up from 17% in 1976 (Chart C). The increase in the rate of part-time work among lone parents with older children was more gradual (from 14% to 17%). On the other hand, during the same period, there was almost no change in the proportion of wives working part time, regardless of the ages of their children.

Female lone parents are less likely than wives in two-parent families to work part time by choice. Fully half of lone parents who had part-time jobs in 1991 reported that this was the only work they could find. Among wives, the leading reason for part-time work was that they did not want full-time employment.

## Shift work

Shift work is relatively common among female lone parents, especially those with young children.<sup>8</sup> In 1991, a third of female lone parents with full-time jobs and children under age 6 worked shift, almost twice the rate for wives with children in the same age range (18%). Lone parents who had older children were less likely than those with young children to work shift (21%), and the difference in their rate and that of wives with older children was negligible.

## Occupation

Whether they are lone parents or wives in two-parent families, employed women tend to have similar occupational distributions. In 1991, 28% of employed female lone parents were in clerical positions, and 18% had service jobs – about the same figures as for wives in two-parent families.

Female lone parents and wives are both relatively well-represented in professional and managerial occupations. For instance, in 1991, a quarter of employed lone parents were in professional fields, and another 13% had managerial and administrative occupations. The corresponding figures for wives in two-parent families were 25% and 11%.

The occupations of employed lone parents and wives reflect their educational attainment. For instance, among women with postsecondary credentials, large proportions of lone parents and wives were in professional/managerial positions (both 59%). For wives, this proportion held whether their children were less than age 6 or aged 6 to 15. By contrast, female lone parents with older children were more likely than those with young children to be in professional/managerial occupations (61% versus 52%).

## Male lone parents

While relatively few men are parenting alone, their numbers have risen since 1976 at about the same pace as female lone parents. By 1991, 65,000 men were heading one-parent families with children under age 16. This marked a 67% increase over 1976 when male lone parents totalled 39,000. In both years, men accounted for 13% of all lone parents.

The employment situation of male lone parents tends to be more favourable than that of their female counterparts. However, male lone parents do not fare as well as husbands in two-parent families. In 1991, 71% of male lone parents were employed. This was much higher than the employment/population ratio for female lone parents (52%), but considerably below that for husbands in two-parent families (87%).

Unemployment is high among male lone parents, 15.7% of whom were unemployed in 1991. This was twice the rate for husbands in two-parent families (7.7%), but slightly below the rate for female lone parents (16.8%).

At 85%, the labour force participation rate of male lone parents in 1991 was low compared with the rate for husbands in two-parent families (95%). Male lone parents, however, were far more likely to be in the labour force than were women parenting alone (63%).

Few men, regardless of their family status, work part time. Only 4% of employed male lone parents and 2% of husbands in two-parent families had part-time jobs in 1991. On the other hand, 19% of employed female lone parents were working part time.

## Summary

Increasingly, both parents in husband-wife families are working and sharing the costs and obligations of child care. But for a large proportion of female lone parents, the employment option does not exist. Particularly if their children are young, the difficulties of balancing a job with child-rearing may lead lone parents to opt out of the labour market entirely.

Alternatively, female lone parents may choose jobs with hours that can be integrated more easily with domestic activities. Such jobs, however, are often associated with low pay and few opportunities for advancement. Therefore, even those lone parents who are employed may have jobs that keep many of them below the low income cut-offs.



The characteristics of individual lone parents, however, vary significantly. Some women have skills and experience that enable them to compete successfully in the

labour market. Others – typically young single mothers – are disadvantaged by limited formal education, few skills, and little or no work experience. □

## Notes

<sup>1</sup> This article is based on a chapter in *Lone-parent families in Canada* (Lindsay, 1992).

<sup>2</sup> The Family History Survey, conducted by Statistics Canada in 1984, estimated that the average duration of lone parenthood for women was 5.5 years. This varied according to the originating event: for women who became parents out of wedlock, the average duration was 4.4 years; for those who were separated or divorced, 5.6 years; and for those who were widowed, 7.5 years (Moore, 1988).

<sup>3</sup> A family is considered to be below the low income cut-off if the proportion of their income spent on food, shelter and clothing is more than 20 percentage points above the proportion the average family spends on these items. The income data for lone parents and husband-wife families, which come from the Survey of Consumer Finances, refer to those with single children less than 18 years of age. This is not strictly comparable with Labour Force Survey data, which are based on families with children less than age 16.

<sup>4</sup> If female-headed lone-parent families had at least one earner (in the vast majority of cases, the lone

parent), their incidence of low income fell to 49%. However, if such families had no earner, the low-income figure stood at 97%. By comparison, just 10% of two-parent families with children were below the low income cut-offs.

<sup>5</sup> The age of children refers to the age of the youngest child in the family. Families with at least one child younger than 6 might also have children in older age groups.

<sup>6</sup> Husband-wife families include both married and common-law couples.

<sup>7</sup> The employment/population ratio for a particular group (for example, lone parents) is the number employed in that group expressed as a percentage of the population in that group.

<sup>8</sup> The information on shift work was derived from the Survey of Work Arrangements. With the exception of the data on low income (Survey of Consumer Finances), all of the other figures are from the Labour Force Survey. For a closer look at the shift work phenomenon, see the article, "Working shift" (Sunter, 1993), in this issue.

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# Working shift

Deborah Sunter

**T**hree out of ten Canadian workers do not work regular daytime hours. They are the nation's shift workers, providing essential services such as police and fire services, round-the-clock health care, and transportation. They also provide many of the services we enjoy – entertainment, dining and shopping, for example – and produce many of the manufactured goods we purchase.

This article takes a broad look at shift work, defining it as a non-standard work schedule that falls outside the normal "9-to-5" workday which begins in the morning and ends in the afternoon. It therefore encompasses regular rotating schedules, evening shifts and night shifts, as well as irregular days or hours and "on-call" work. These types of work schedules affected the professional and personal lives of about 2 million full-time and 1 million part-time employees in 1991.

For the workers who regularly put in non-standard hours, there may be both benefits and costs associated with their schedules. For some, shift work may be the only type of work available, either because jobs with standard hours are in short supply, or because their occupation requires that

they work outside the regular 9-to-5 schedule. Working shift allows students to earn money without interfering with school. It may also be an advantage to some parents as a child care strategy, enabling a couple to save on day care costs while sharing the care of their children.

On the other hand, medical and sociological research documents some of the potential costs of shift work. Disrupted biological rhythms, insufficient sleep, and poor eating habits may be related to shift work and may contribute to emotional and physical health problems (Finn, 1981). Shift hours can put workers out of sync with the people around them, and fatigue and tension may place further stress on family and social relationships. Finally, in the absence of round-the-clock child care services, shift work may present a child care dilemma, especially for lone parents or couples who work the same shift schedules.

Using results from the 1991 Survey of Work Arrangements, this article assesses the prevalence of non-standard work schedules, selected demographic and socio-economic characteristics of shift workers, and their main reasons for working shift. Since the labour force and demographic characteristics of full-time workers differ considerably from those of part-time workers, each group is examined separately.

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## Full-time workers

### Almost one in four full-time employees works shift

Of the 8.5 million full-time paid workers in Canada in 1991, almost 2 million, or 23%, had schedules that differed from the regular daytime standard. These people were shift workers (see *Data and definitions*).

The schedules of full-time shift workers vary considerably. Almost two-thirds of them had "regular" schedules. By far the most common of these was the rotating shift, where the hours worked periodically change from days to evenings or nights (40%). The second most common was evenings (15%), followed by nights (6%), and split-shifts (3%). However, 3 out of 10 full-time shift workers did not work any of these schedules, having instead "irregular" shifts. An additional 3% worked on call (Table 1).

### Who works shift?

Shift work was slightly more common among male than female full-time employees (25% compared with 21%), but men were more likely to have pre-arranged schedules. Only 27% of male shift workers had irregular schedules, compared with 36% of women.

Teenagers, particularly young women, had the highest shift rates, at 31%. And while the incidence of shift work decreased sharply among full-time workers over age 24, a substantial proportion (22%) were employed outside regular daytime hours. Although a smaller proportion of adults than youths worked shift, those aged 25 and over accounted for the great majority of all full-time shift workers (Chart A).

Educational attainment did not seem to influence male shift rates. The exception was found among men with university degrees, whose rate was half the 27% average. Women's shift rates tended to decline at higher levels of education, apart from women with postsecondary certificates

## Data and definitions

The Survey of Work Arrangements was conducted as a supplement to the November 1991 Labour Force Survey (LFS) and collected data on the work schedules of paid workers employed during the LFS reference week. Information is available on a variety of issues, such as when people worked, the amount of control they had over their schedules, the extent and characteristics of home-based workers, and additional information on second jobs that was not previously collected.

### Work schedule definitions

There are several ways to measure the extent of shift work. One method is to determine the number of workers who worked a majority of their daily hours in any one week between 5 p.m. and 7 a.m. But this method does not fully capture the reality of workers whose schedules vary from week to week, or even day to day (rotating, split-shift, on-call and irregular schedules).

The data in this article are based on self-identification; that is, the respondent was asked which of several definitions best described their usual schedule in their main job. This method also has its shortcomings, as it excludes shift work associated with a second job. In 1991, an estimated 290,000 shift workers were moonlighting, holding down a second job in conjunction with a regular full-time day job. Information on these workers is not available from the survey.

**Regular daytime** – work either follows the standard 9-to-5 schedule or begins in the morning and ends in the afternoon (including weekends).

**Regular evening shift** – work starts at about 3 p.m. or 4 p.m. and ends around midnight.

**Regular night or graveyard shift** – work starts at or around midnight and ends around 8 a.m.

**Rotating shift** – a combination of the above shifts, provided the shifts rotate regularly and one shift does not predominate over the other(s).

**Split shift** – two or more distinct periods of work with an interval of free time – not solely a lunch break, for example – between work periods. A bus driver who works morning and afternoon rush hours with a five-hour break in between is on split shift.

**On-call** – hours vary considerably from one week to the next. Workers are asked to work as the need arises, rather than on a pre-arranged schedule.

**Irregular schedule** – workers do not have regular schedules but work for the same employers on a consistent basis. The schedule is usually arranged one week or more in advance.

**Other** – schedules that do not fit any of the above categories.

Table 1  
Proportion of paid workers\* by schedule of main job, type of work and sex, 1991

	Total paid workers	Regular daytime schedule	Shift work schedule	Proportion of shift workers					
				Total	Evening	Night	Rotating	Irregular	Other**
	'000	%					%		
<b>All workers</b>	<b>10,332</b>	<b>70</b>	<b>30</b>	<b>100</b>	<b>16</b>	<b>5</b>	<b>30</b>	<b>35</b>	<b>14</b>
Men	5,350	70	30	100	17	5	36	29	13
Women	4,982	70	30	100	16	4	25	40	15
<b>Full-time</b>	<b>8,542</b>	<b>77</b>	<b>23</b>	<b>100</b>	<b>15</b>	<b>6</b>	<b>40</b>	<b>30</b>	<b>9</b>
Men	4,819	75	25	100	15	6	44	27	8
Women	3,723	79	21	100	14	6	35	36	9
<b>Part-time</b>	<b>1,790</b>	<b>39</b>	<b>61</b>	<b>100</b>	<b>20</b>	<b>2</b>	<b>12</b>	<b>42</b>	<b>23</b>
Men	531	29	71	100	23	--	10	37	27
Women	1,259	43	57	100	18	--	14	45	21

Source: Survey of Work Arrangements

\* Aged 15 to 64.

\*\* Includes split-shift and on-call schedules.

or diplomas. This anomaly is partly due to the high proportion of female shift workers with qualifications in health care.

### No choice in the matter

The vast majority of both male and female full-time shift workers felt they had no control over their work schedules. Among those who gave a reason for working shift, about 89% of men and 83% of women worked shift because it was required by the job. Only 6% of women (48,000), and almost no men chose to work shift because of child care or family responsibilities; a similarly small proportion of men and women (4%) worked shift to earn more money.

The rate of shift work by occupation<sup>1</sup> also suggests that necessity, rather than choice, dictates the work schedule of most full-time shift workers. The constant need for police, fire protection and health care is reflected in the high rates for protective and health occupations: almost 70% of police officers, firefighters and security guards, and 50% of health workers, worked shift. Rotating shifts dominated, but irregular shifts were also common.

Almost 3 out of 10 workers in the processing occupations had non-standard schedules to keep capital-intensive manufacturing plants and equipment in production, while 4 out of 10 employees in transportation and material handling worked shift to provide continual movement of goods and people. In contrast, occupations associated with the office – clerical workers, non-health professionals, and management – had shift rates below 15%. Construction workers were the least likely to work shift (Chart B).

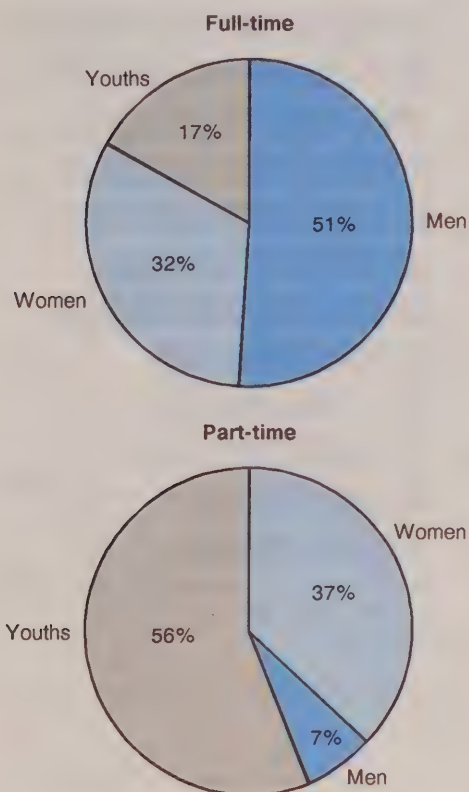
The distribution of full-time shift workers across the major occupations is influenced not only by shift rates, but also by the relative size of the occupational group.

Accordingly, workers in processing and those in food, beverage and other services each accounted for 17% of all shift workers. Despite high shift rates, only 11% worked in the health occupations and 6% in protective services. Conversely, although the incidence of shift work was very low in clerical occupations, the number of employees in this group was so large that they accounted for a further 10% of shift workers.



Chart A

In 1991, the demographic profiles of full- and part-time shift workers differed dramatically.



Source: Survey of Work Arrangements

### Shift work and families

In 1991, just over a third of all full-time shift workers (700,000) were parents with children under the age of 16 at home; of these, half were parents of children under 6. There is little indication that workers with family responsibilities avoided shifts (Table 2).

Although men in dual-earner families and lone-parent fathers had lower shift rates than those in single-earner families or those who were unattached, the differences were small and there was little variation by presence and age of children.

Among women, the shift rate differed notably from the average (21%) in only two family situations. In the first, it was 27% for single-earner families with a husband and at least one child under 6, perhaps reflecting the presence of a non-working husband at home able to provide child care. In the second case, the shift rate climbed even higher, to 33%, for female lone parents with children under 6. For many of the women in this situation, it is likely that child care arrangements are complex and problematic, since institutional day care is almost exclusively a daytime operation.

### Part-time workers

#### Most part-timers work shift

About 6 in 10 part-time employees are shift workers, and the majority of them do not have regular schedules. In 1991, just over 40% worked irregular schedules and an additional 18% worked on call; another 20% had regular evening hours, and 2% worked regular nights.

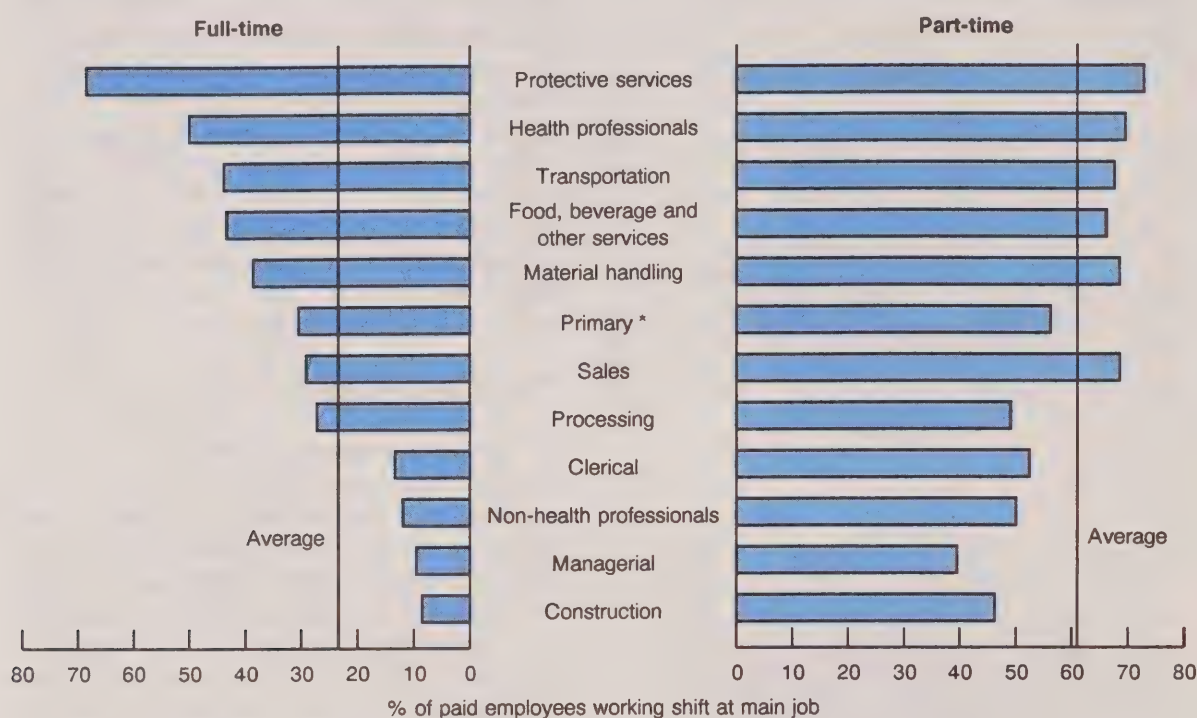
Over half of the part-time shift workforce is under the age of 25. Three-quarters of workers aged 15 to 24 had part-time shifts; not surprisingly, most (84%) were students.

Even though about 70% of men with part-time jobs worked shift, they represented fewer than 1 in 10 part-time shift workers, mainly because so few work less than 30 hours a week. On the other hand, part-time work is common among women, who accounted for over one-third of all part-time shift workers, even though their shift rate was lower than men's or youths'.

Shift work characterizes the majority of part-time schedules in almost all occupations. However, because of their large numbers, more than two-thirds of all part-time shift workers were concentrated in only three occupations: food, beverage and other services (29%); clerical work, including cashiers (22%); and sales (17%).

Chart B

Occupation most often determined if an employee worked shift in 1991.



Source: Survey of Work Arrangements

\* Includes farming, fishing, forestry and mining.

### Part-timers exercise more choice

Part-time workers were much more likely than full-time workers to be working shift to accommodate "other responsibilities." The element of choice was far more common among youths – almost two-thirds worked shift to allow time for school. Indeed, both short hours and non-standard schedules are well suited to the joint demands of school and work. Job requirements dictated the work schedules of the majority of adult men. For women, 16% had child care responsibilities that made shift hours more attractive than regular daytime schedules.

### Trends in shift work

Little information about the incidence of shift work is available for Canada, although some tentative conclusions may be drawn from work done in 1967. In June of that year, 19% of all paid workers (both full- and part-time) reported that they usually worked "nights" as distinct from standard daytime schedules. The shift rate for all paid workers in 1991 was 30%. While this may indicate a sharp upward trend over the last 25 years, the two estimates are not strictly comparable.<sup>2</sup>



**Table 2**  
**Shift rates of full-time paid workers by type of family, presence of children and sex, 1991**

	Total employment		Shift rate	
	Men	Women	Men	Women
	'000		%	
<b>Total*</b>	<b>4,819</b>	<b>3,723</b>	<b>25</b>	<b>21</b>
Unattached individuals	714	643	27	23
Dual-earner families	2,251	1,965	23	20
With at least one child under 6 years	589	450	23	18
At least one child 6-15 years	641	511	21	22
No children under 16 years	1,022	1,004	24	20
Single-earner families	1,008	328	26	20
With at least one child under 6 years	371	58	26	27
At least one child 6-15 years	246	67	26	17
No children under 16 years	391	203	26	19
Lone parents	74	261	23	23
With at least one child under 6 years	6	50	--	33
At least one child 6-15 years	33	125	--	21
No children under 16 years	35	86	--	19

Source: Survey of Work Arrangements

\* Includes other family members.

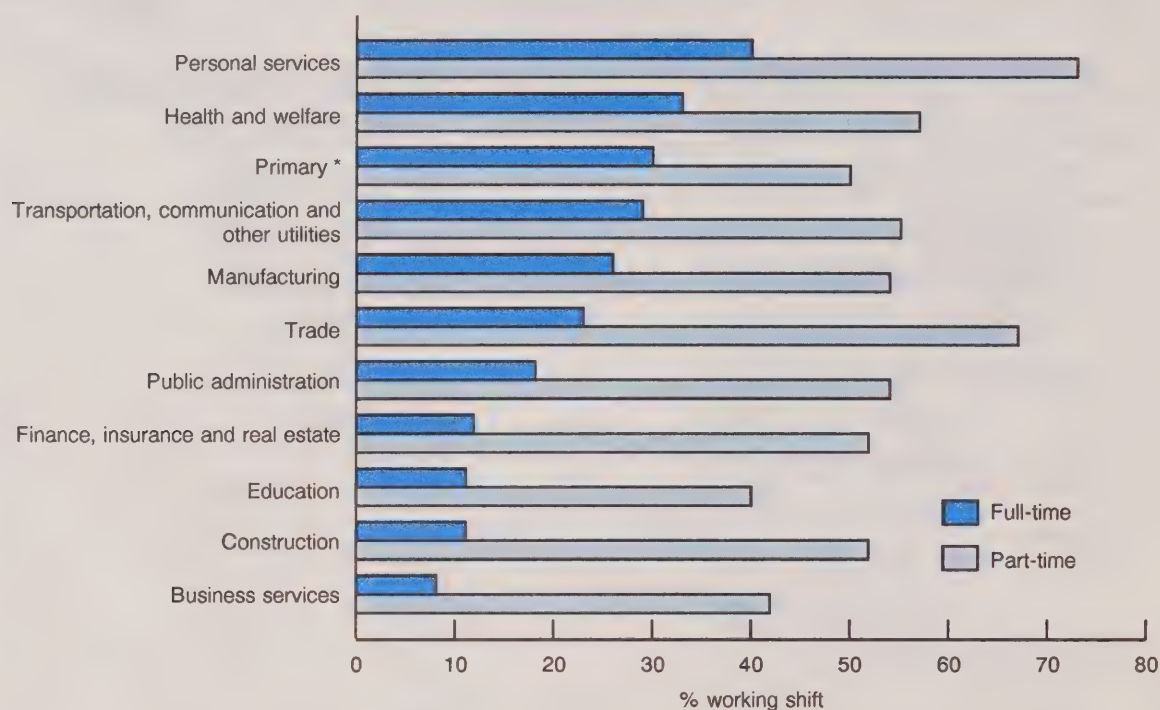
Similarly, although the U.S. Bureau of Labor has measured the extent of shift work on three occasions over the last 15 years, each time the methods and concepts used were different enough to make comparisons problematic. The most recent estimate (May 1991) indicates that the schedules of 18% of all full-time wage and salary workers 16 years and over diverged from the regular daytime norm. This figure is considerably lower than the 1991 estimate for Canadian full-time workers (23%).

Despite the shortage of historical evidence, it seems that Canada has seen a

long-term rise in the incidence of shift work. Over the last two decades, the workplace has changed in ways that encourage – and demand – the use of shift work. The service-producing sector's reliance on part-time workers is largely responsible for their growth from 11% of the total workforce in 1976 to 16% in 1991, and for the dramatic rise in the proportion of students working during the school year – up from 25% to almost 40% over the same period. And, as shown in this article, non-standard schedules are characteristic of both part-time work and student labour.

Chart C

**At least one-quarter of full-time workers in five major industries had shift schedules in 1991.**



Source: Survey of Work Arrangements

\* Includes agriculture, fishing, forestry and mining.

The future is likely to hold more of the same. For instance, the proportion of persons working in manufacturing is dropping, but the need for greater productivity may push the rate of shift work among these workers higher. Similar pressures are being exerted to distribute goods and services at the customer's convenience, a service generally provided by shift workers.

## Summary

Shift work is an important component of labour force activity in Canada. In 1991, it influenced the working lives of almost one-quarter of all full-time paid workers, and

almost two-thirds of all part-timers. In most cases, their work schedules were dictated by the nature of their jobs.

Among full-time workers, men were somewhat more likely to work shift than women, and the incidence of shift work decreased with age for both sexes. Shift rates were highest among those who offer essential services – firefighting, law enforcement, and health care – but were also quite high among those employed in hospitality, transportation, material handling and processing jobs. The presence of young children made little difference to the likelihood that parents were working shift.



Over 60% of all part-time employees worked shift, and they tended to have irregular schedules that varied from day to day or week to week. Youths, primarily students, accounted for just over half of all part-time shift workers, while women made up most of the remainder.

Future trends in the prevalence of non-standard hours warrant close attention. Currently, 3 million shift workers are

exposed to the physical and social problems often associated with non-standard hours, and many must continually adapt their personal and family schedules to the variable demands of irregular shifts. Nevertheless, the incidence of shift work is likely to increase in conjunction with demands for greater productivity and customer convenience, and the growth in part-time and student employment. □

## Notes

<sup>1</sup> The occupational classification used in this article is based on the 1980 Standard Occupational Classification and is aggregated as follows:

- Managerial, administrative, and professional
  - Managerial
  - Non-health professional
  - Medicine and health
- Clerical and related
- Sales
- Service
  - Protective services
  - Food, beverage and other services
- Primary
- Processing
- Construction
- Transportation
- Material handling and other crafts.

<sup>2</sup> The 1967 and 1991 figures should be compared with caution for three reasons: (1) the 1967 survey included 14 year-olds, while the 1991 survey did not; (2) the estimates measure shift rates for different months of the year (if seasonal factors were taken into account, it is reasonable to assume that the difference between the rates would be even larger, because the incidence of shift work probably rises in the summer months); (3) the earlier survey did not allow for irregular and rotating shifts (if it had, the gap between the estimates would probably be smaller, more than offsetting the effects of seasonality).

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# Women in academia – a growing minority

Judy Lee

Women have long constituted the majority of people employed in the teaching profession. Yet at successively higher levels of education, the female component diminishes. Nowhere is this trend more evident than in universities, the upper echelon of the educational system, where women make up a minority of faculty members. But with the number of potential female candidates increasing over the last few decades (see *Growing pool of female PhDs*), the gender distribution of faculty on Canadian campuses has changed. Given the steady upturn of female participation in many other traditionally male-dominated occupations, what gains have women made as members of university faculties over the last 30 years?

Using administrative data (see *Data source and definitions*), this study analyzes growth since 1960 in the number of women teaching full time<sup>1</sup> at Canada's universities. The article also examines academic rank, field of specialization, qualifications, age structure, and earnings.

## Overall growth: 1960 to 1989

Even by 1989, women made up only a minority of university teachers. That year,

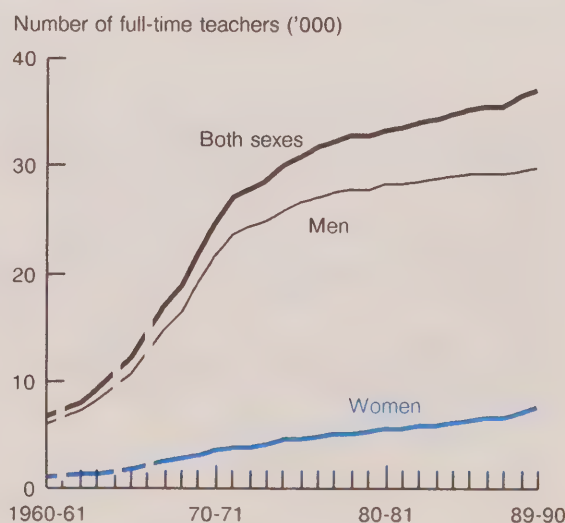
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the 7,200 female full-time teachers on Canadian campuses were vastly outnumbered by male faculty members who totalled almost 30,000 (Chart A).<sup>2</sup> However, since 1960, the number of women has risen tenfold, compared with a fivefold increase for men (Chart B). As a result, there has been a slow but steady growth in female representation, from 11% of all full-time faculty in 1960 to 20% in 1989.

Chart A

**Women remain a minority among university teachers. \***

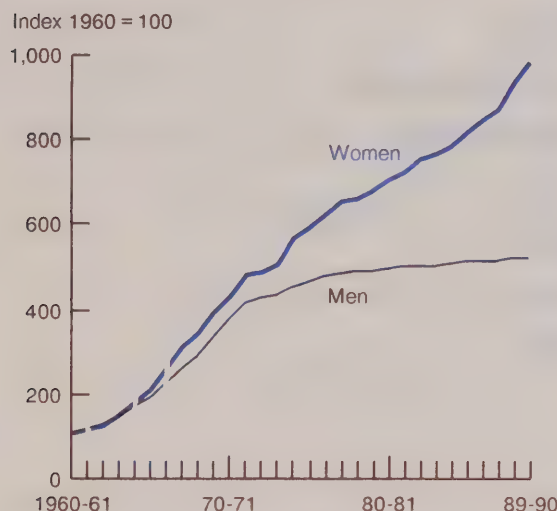


Source: Education, Culture and Tourism Division

\* The data were not collected in 1961-62, 1964-65 and 1966-67.



Chart B  
Female faculty have increased at a fast pace. \*



Source: Education, Culture and Tourism Division

\* The data were not collected in 1961-62, 1964-65 and 1966-67.

Furthermore, women account for a substantial proportion of new faculty members. In 1989, 35% of newly hired teachers were women, and since 1980, the female share of appointments has been at least 27%.<sup>3</sup>

### Concentration in specific fields

Women teaching at Canada's universities tend to be concentrated in certain fields. For the last 20 years, four fields – humanities, health, education, and social sciences – have accounted for approximately 80% of all female faculty. (During the 1960s, agriculture and biological sciences, not the social sciences, was among the top four fields for female staff.) By contrast, even in 1989, only 1% of all female faculty were in engineering and applied sciences, and fewer than 5% were in mathematics and physical sciences.

### Data source and definitions

#### Data source

The Education, Culture and Tourism Division of Statistics Canada obtains annual information on full-time university teachers from the administrative records of Canadian degree-granting institutions. The database contains demographic, education program, and salary information.

#### Population

Teachers include all academic staff who are teaching or performing administrative duties. Also included are senior administrators, academic staff in teaching hospitals, and visiting academic staff. Presidents and vice-presidents are excluded. This study analyses only full-time teachers: academic staff and senior administrators (including those on sabbatical leave) who are contracted on a full-time basis ("full load") and whose term of appointment is four months or more. Each university is responsible for determining which of its teachers are to be classified as having full workloads.

New faculty members are classified under new appointments. New appointments are not synonymous with new positions; they usually result from a combination of expansion and of positions that have become open due to attrition.

#### Rank

The following categories are used to designate different levels of academic appointment: full professor, associate professor, assistant professor, and lecturer or instructor. Staff ranked two levels below assistant professor and ungraded staff are grouped together in the "other" category. Visiting staff are distributed according to their appropriate ranks.

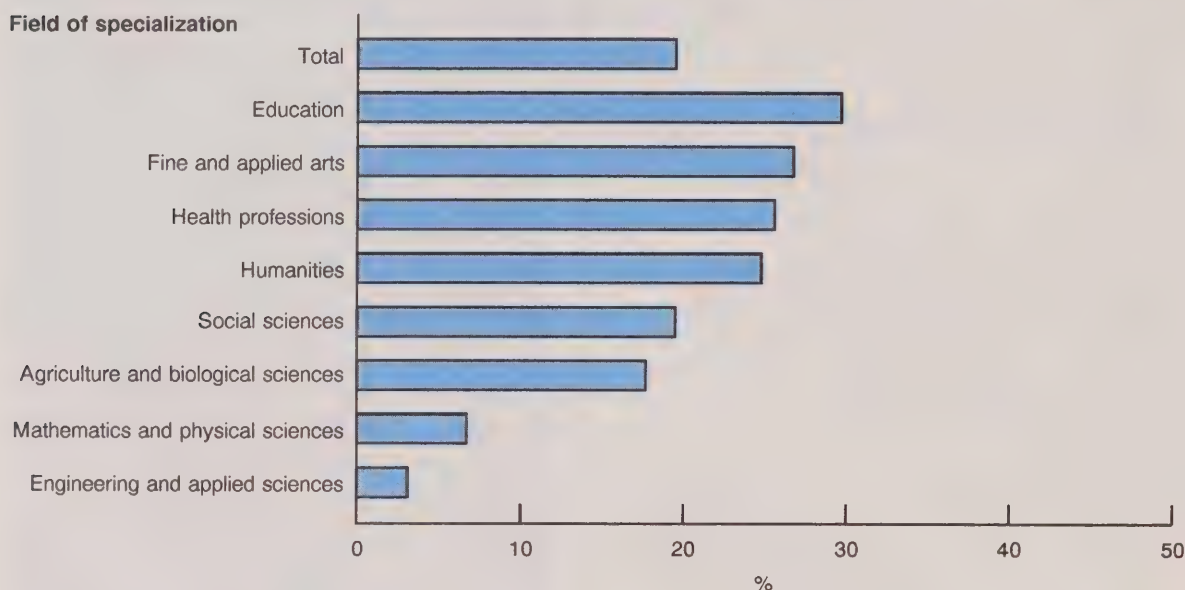
#### Salaries

Only teachers paid according to regular salary scales are included in the earnings analysis. This group excludes those on leave without pay and certain staff in denominational institutions, but includes teachers on sabbatical leave.

Salary figures are based on annual rates of pay. These data include additional payments for administrative functions and other types of honoraria, but exclude such items as employee benefits, overtime pay, and compensation for extension courses. Salaries of individuals who were employed full time, but for less than 12 months, have been adjusted to an annual rate. For staff on sabbatical leave, the annual rate of pay is the salary they would have received had they been teaching.

Chart C

Even in their traditional fields, women accounted for less than a third of faculty in 1989.



Source: Education, Culture and Tourism Division

Moreover, women remain a minority in all fields, constituting fewer than a third of the full-time teachers in any faculty (Chart C). In 1989, education had the largest proportion of women at 30%, followed by fine and applied arts at 27%, and health at 26%. The lowest female representation was in engineering and applied sciences (3%) and in mathematics and physical sciences (7%).

### Few at higher ranks

At successively higher academic ranks, the proportion of female faculty declines (Chart D). In 1989, just 7% of all full professors, but half of lecturers and instructors, were women. Both figures, however, were up from 1960 when women had accounted for 4% of full professors and fewer than a quarter of lecturers and instructors.

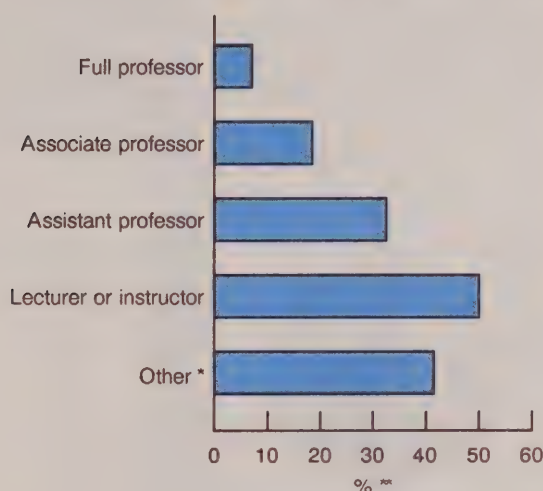
The concentration of women at lower ranks is most pronounced in male-dominated fields. For instance, in engineering and applied sciences, women made up fewer than 1% of full professors, but 15% of lecturers and instructors. Yet even in education, the faculty with the highest proportion of female staff, only 15% of full professors were women versus 61% of lecturers and instructors.

Women's relatively low representation among full professors may, to some extent, reflect the time required to attain full professor status, since only recently have substantial numbers of women joined university faculties. And in fact, over the last two decades, there has been an increase in the proportion of women at higher academic ranks. Between 1970 and 1989, the percentage of all female teachers holding full professorships almost tripled from 5% to



Chart D

**Women's representation tends to decline at higher academic ranks.**



Source: Education, Culture and Tourism Division

\* Staff ranked two levels below assistant professor, and ungraded staff.

\*\* Percentage of faculty accounted for by women in 1989.

13%. At the same time, the percentage of male faculty at this level rose from 22% to 42%. As well, an increase of women at the associate professor level has meant that their proportional representation at this rank nearly equals that of men. By 1989, 33% of female faculty were associate professors, up from 17% two decades earlier; the comparable increase for men was from 28% to 35%.

## Qualifications

The academic credentials of university faculty members in general have risen over the past 30 years. In part, this is a result of growing competition for teaching positions. The percentage of women with doctorates, however, is markedly lower than the corresponding figure for men: in 1989, 52%

## Growing pool of female PhDs

A rising proportion of doctorates are being awarded to women. In 1990, women earned 32% of all doctoral degrees, up from 23% in 1980, and 9% in 1970.

Women's representation among PhD recipients varies in different fields of study. Over half of PhDs granted in education in 1990 went to women. As well, they earned around 40% of doctorates in social sciences, humanities, fine and applied arts, and health. But even in 1990, women accounted for relatively small proportions of doctoral degrees in engineering and applied sciences (7%) and mathematics and physical sciences (20%). Nonetheless, these figures were up from 3% and 8%, respectively, in 1980.

of women teaching at the university level held PhDs, compared with 71% of men (Chart E).

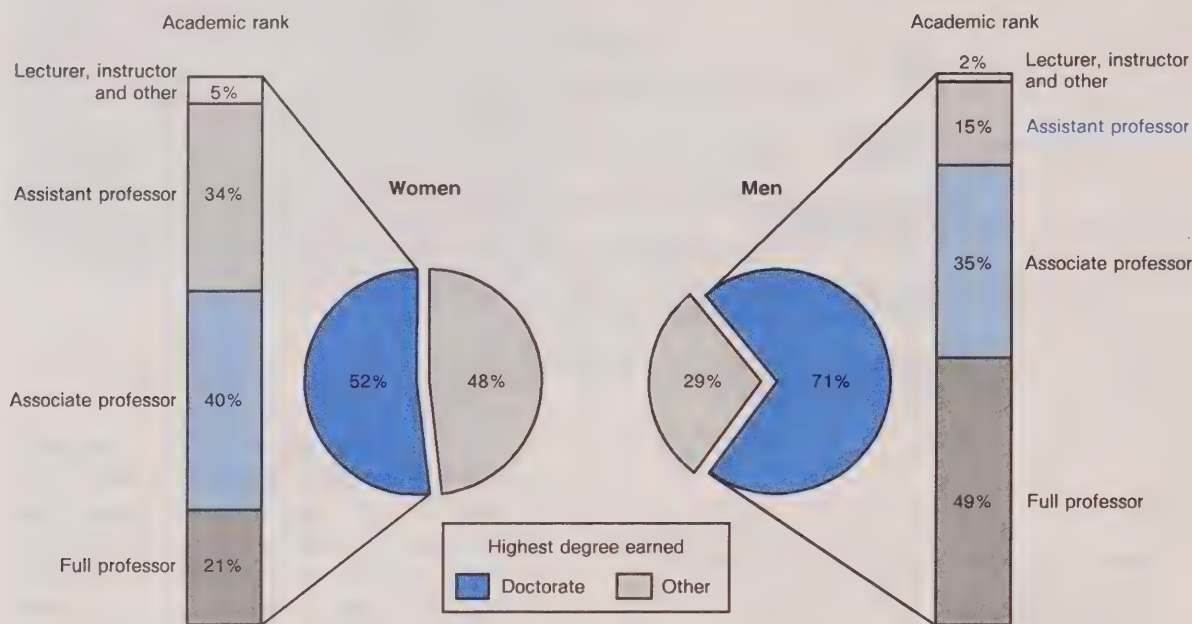
To a large extent, this discrepancy reflects differences in academic rank. In fact, the qualification gap between women and men is much narrower at each rank than the overall proportions suggest. For instance, in 1989, 80% of women who were full professors had doctorates, compared with 82% of their male counterparts. At the associate professor level, the corresponding percentages were 63% and 71%.<sup>4</sup>

Over the past 20 years, a rising proportion of university teachers with doctorates have been employed at the higher academic ranks. Even so, the share of female faculty with PhDs who are full professors is well below the figure for men. By 1989, 21% of female faculty with doctorates were full professors, whereas half of male teachers with PhDs were employed at that level (Chart E).

However, several factors not considered here should be taken into account for a more complete picture of upward mobility. For instance, only recently have substantial numbers of women joined university faculties. The seemingly slow advancement of women overall may reflect these recruits' lack of seniority. As well, women tend to have discontinuous and interrupted work

Chart E

**Female faculty were less likely than male faculty to have PhDs or to be full professors in 1989.**



Source: Education, Culture and Tourism Division

histories during their childbearing years, which might affect their experience and opportunities for promotion.

## Earnings comparable

The concentration of women at lower ranks explains most of the gender variations in earnings, as university salaries are scaled according to rank. In 1989, the median salary of female faculty overall was just under 80% of what their male counterparts received.

Again, most of this difference disappears when teachers of equal rank in the same field are compared. For example, in 1989, the earnings of female full professors in agriculture and biological sciences were 98% of the earnings of their male colleagues.

## Major occupational destination

University teaching is the leading occupation for people with doctoral degrees. According to the 1986 Census, about a third of the population with doctorates reported their main occupation to be university teaching. Men with PhDs (35%) were slightly more likely to be university teachers than women with similar qualifications (31%).

A national survey of graduates indicates that the predominance of university teaching is even greater among recent PhD recipients. By 1988, 42% of people who had earned doctoral degrees two years earlier were teaching at university. Again, the proportion of male graduates in this occupation (45%) exceeded the proportion of female graduates (38%).

The lowest ratio for full professors (93%) was in health, a faculty with a relatively high representation of women.<sup>5</sup> In education, the ratio was 95%, the same as full professors overall.



The lower earnings of women, even at the same academic rank and in the same field as men, may be attributable to lack of experience and seniority, factors which are not explored here. Nonetheless, compared with the much larger male-female earnings differential in the general labour force, the gap in academia is minuscule.<sup>6</sup>

### Female teachers younger

Female faculty members tend to be younger than their male colleagues. In 1989, the median age of university teachers was 43 for women and 47 for men. The youngest women were in engineering and applied sciences, with a median age of 38, compared with 48 for men. Women teaching mathematics and physical sciences were also relatively young, with a median age of 41; the corresponding age for men was 48.

On the other hand, in fields that have been more traditional choices for women, female faculty were older. For instance, the median age of women teaching education or humanities was 45. Even so, they tended to be younger than the men in these fields, whose median ages were 49 and 50, respectively.

Thus, female university teachers are less likely than men to be approaching retirement. In 1989, 13% of female faculty were aged 55 or older, compared with 23% of male faculty (Chart F).

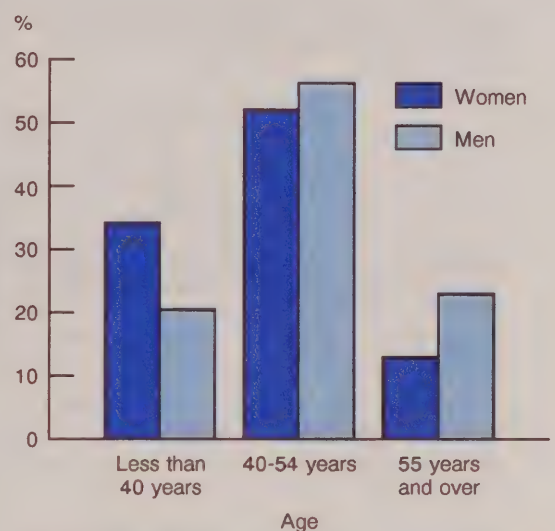
### Summary

Although women have made substantial inroads, they remain a minority among the faculty on Canadian university campuses. Despite changes that are slowly taking place, women are still concentrated at the lower ranks and in traditionally "female" fields. Their earnings are also slightly lower than those of their male colleagues, although

this largely reflects uneven distributions by rank, and perhaps, factors such as seniority and experience.

Chart F

**In 1989, a smaller share of female than male faculty were close to retirement.**



Source: Education, Culture and Tourism Division

However, women's potential for future upward mobility may be greater, because they tend to be younger than their male counterparts. These women may have opportunities for promotions as their male colleagues retire, especially in fields with the largest gender gaps in median age – engineering and applied sciences, and mathematics and physical sciences. On the other hand, given the recent financial constraints imposed on universities, substantial progress for women at the upper ranks may be limited. The outlook for female faculty may depend not only on their qualifications and experience, but also on such external factors. □

## Notes

<sup>1</sup> Historical data are not available for part-time university faculty. However, in 1990, the Education, Culture and Tourism Division of Statistics Canada began collecting information on part-time as well as full-time university teachers.

<sup>2</sup> Dates refer to academic years. For example, 1989 figures pertain to the 1989-90 academic year.

<sup>3</sup> Appointments refer to faculty members "new" to a specific university; previously, they might have held a position at another university.

<sup>4</sup> The low proportion of female associate professors with doctorates largely reflects the qualifications of teachers in health and in fine and applied arts, many of whom do not have PhDs. Health, in particular, accounts for a relatively large share of female associate professors: 22% in 1989.

<sup>5</sup> To some extent, this difference may be a result of the particular health disciplines taught by female versus male faculty members: for example, physiotherapy or nursing as opposed to medical specialties.

<sup>6</sup> In 1989, the female-male earnings ratio for full-year, full-time workers was 66%.

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# Facing retirement

Susan Crompton

**A**lmost 3 million Canadian workers will be retiring over the next two decades. Financial preparedness is one of the factors that will determine whether they approach retirement with optimism or anxiety. Clearly, present financial resources determine in large measure just how extensive preparations for retirement can be: the more disposable income a person has, the more he or she is able to save. And there is no doubt that some workers will be considerably better placed than others to play the role of "woofies" – well-off older folks – whether or not they had planned it that way.

Using data from the Survey of Ageing and Independence (SAI), this article looks at some of the basic retirement planning done by working Canadians aged 45 to 64. It examines the resources that will enable them to enjoy retirement: what they have in the way of financial assets – registered employer-sponsored pension plans (RPPs), registered retirement savings plans (RRSPs) and other investments – and the value of the property they own (see *Data source and definitions*).

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## Income and occupation – the inextricable link

In 1991, 1.7 million male and 1.2 million female workers were aged 45 to 64, and all of them expected to retire over the next 10 or 20 years. A plurality of these workers (37%) had annual personal incomes between \$20,000 and \$39,999; an almost equally large group (36%) had \$40,000 or more (Table 1).<sup>1</sup>

Younger workers aged 45 to 54 were somewhat better off than their older colleagues, but this may be because a higher proportion of 55 to 64 year-olds worked part time. Men were more likely to have higher incomes than women: over half of them received \$40,000 or more, compared with just over 1 in 10 women.

Of course, occupation<sup>2</sup> has a profound impact on a worker's annual income. Managers and professionals brought home the biggest incomes: 29% reported \$60,000 or more and 30% between \$40,000 and \$59,999. Workers in the service occupations generally had much lower incomes – 60% reported less than \$20,000. Fully 60% of service workers were women, over one-third of whom worked part time.

## Financial assets

### Over 50% of workers have RPPs

For many workers, the most important source of retirement income will be a pension. At present, government pensions

Table 1  
Workers aged 45 to 64 by personal income and occupation, 1990

	Total*	Less than \$20,000	\$20,000 – \$39,999	\$40,000 – \$59,999	\$60,000 and over
		%			
<b>All workers aged 45-64</b>	<b>100</b>	<b>27</b>	<b>37</b>	<b>21</b>	<b>15</b>
45-54 years	100	25	37	23	15
55-64 years	100	31	39	17	13
<b>All occupations</b>	<b>100</b>	<b>27</b>	<b>37</b>	<b>21</b>	<b>15</b>
Managerial and professional	100	11	30	30	29
Clerical	100	38	50	--	--
Sales	100	40	31	18	--
Service	100	60	33	--	--
Primary	100	38	31	--	--
Processing	100	22	46	26	--
Construction	100	--	50	32	--
Transportation	100	23	43	24	--
Material handling	100	--	35	28	--

Source: Survey on Ageing and Independence

\* Excludes respondents who did not disclose personal income information.

are the main source of income for 66% of Canadians aged 65 and over, while private pensions are the main source for only 18%. However, trends suggest that reliance on private plans will rise: in 1991, 55% of working Canadians aged 45 to 64 participated in RPPs.

Younger workers had better rates of pension coverage: 58% of 45 to 54 year-olds compared with 50% of 55 to 64 year-olds. This, however, is insignificant compared with the profound disparity in pension coverage among the different income groups. Just 24% of workers with incomes of less than \$20,000 had RPPs, compared with 81% of those with personal incomes between \$40,000 and \$59,999.

The link between income and pension plan participation is, of course, reflected in the coverage rates for the major occupational groups. Over two-thirds of workers in material handling and managerial and professional occupations were covered, where 45% and 59% of workers, respectively, reported incomes of at least \$40,000.<sup>3</sup> Furthermore, over 60% of workers in these two occupations were employed in manu-

facturing, community services (which includes education and health services), or government services. These industries are characterized by a high level of unionization, which is in turn associated with high rates of RPP coverage.<sup>4</sup>

Coverage also differed markedly by sex. While 60% of male workers aged 45 to 64 could expect to receive employer-sponsored pensions upon retirement, only 48% of their female colleagues enjoyed the same security.<sup>5</sup> To a large extent, this disparity can be explained: 25% of women worked part time, and pension coverage is estimated at only 28% for part-time employees in this age group, compared with 59% for full-time employees. Women's financial situation at retirement may improve as their labour force participation in full-time jobs grows (Galarneau, 1991), but a large proportion of the next generation of female retirees is still clustered in occupations and industries in which incomes and rates of RPP coverage are low.<sup>6</sup> This fact is implicitly acknowledged in women's concerns about the adequacy of their retirement incomes (see *Pre-retirees look to the future*).



## Data source and definitions

The Survey on Ageing and Independence, conducted by Statistics Canada in September 1991, was intended to measure the factors that are important to people remaining independent, active members of their community as they grow older. The sample consisted of approximately 20,000 former respondents to the Labour Force Survey (LFS), who had been surveyed at some point between September 1990 and June 1991. One person aged 45 years or over was interviewed in each household.

The survey was designed around an analytical framework developed by the Canadian Aging and Retirement Network (CARNET). CARNET proposed that independent living in later life is determined by three major factors: health, income, and social activity. This article focuses on the income component, specifically how working Canadians aged 45 to 64 are making financial preparations for retirement.

**Worker** – a person who was a paid worker or self-employed at some time in the 12 months preceding the survey. The data include only those workers who believe that they will eventually retire, even if they cannot specify the age at which they intend to do so.

Almost 9 in 10 (87%) workers aged 45 to 64, whether working full time or part time, had worked for the entire year in the 12 months preceding the survey. This proportion held firm for both sexes and both age groups – among 45 to 54 year-olds, 90% of men and 83% of women had worked all year, as had 86% of men and 84% of women aged 55 to 64.

**RPP** – a registered employer-sponsored pension plan in which the respondent participates through employment, excluding the Canada and Quebec Pension Plans. This measures current participation and does not include the accrual of pension benefits in a previous job.

**RRSP** – a registered retirement savings plan to which the respondent has contributed at some time.

**Other investments** – includes buying property, as well as putting money in financial instruments such as stocks and bonds.

**Home** – the principal place of residence, owned by the respondent and/or the respondent's spouse or partner.

**Other property** – vacation homes, rental property, business property, and so on, owned by the respondent and/or the respondent's spouse or partner, but excluding the respondent's home.

**Property value** – the price that respondents thought they could receive for their homes at the time of the survey in September 1991. Estimates therefore undoubtedly reflect the local housing market, as well as the subjective assessment of the homeowner.

**Income** – pre-tax income in 1990 from all sources, including employment, pensions, government transfer payments, investments, and other sources (alimony, inheritance, estate). Employment earnings was the main source of personal income for 86% of workers aged 45 to 64.

Income information was collected for ranges of annual income, for example, less than \$10,000, \$10,000 to \$19,999 and so on; therefore, averages and medians could not be calculated. As is often the case, non-response rates for financial questions were much higher than those for other questions. About 23% of respondents did not disclose information about their personal income and 31% were silent about their household income. Therefore, the figures may misrepresent, to some degree, the financial position of the population under study.

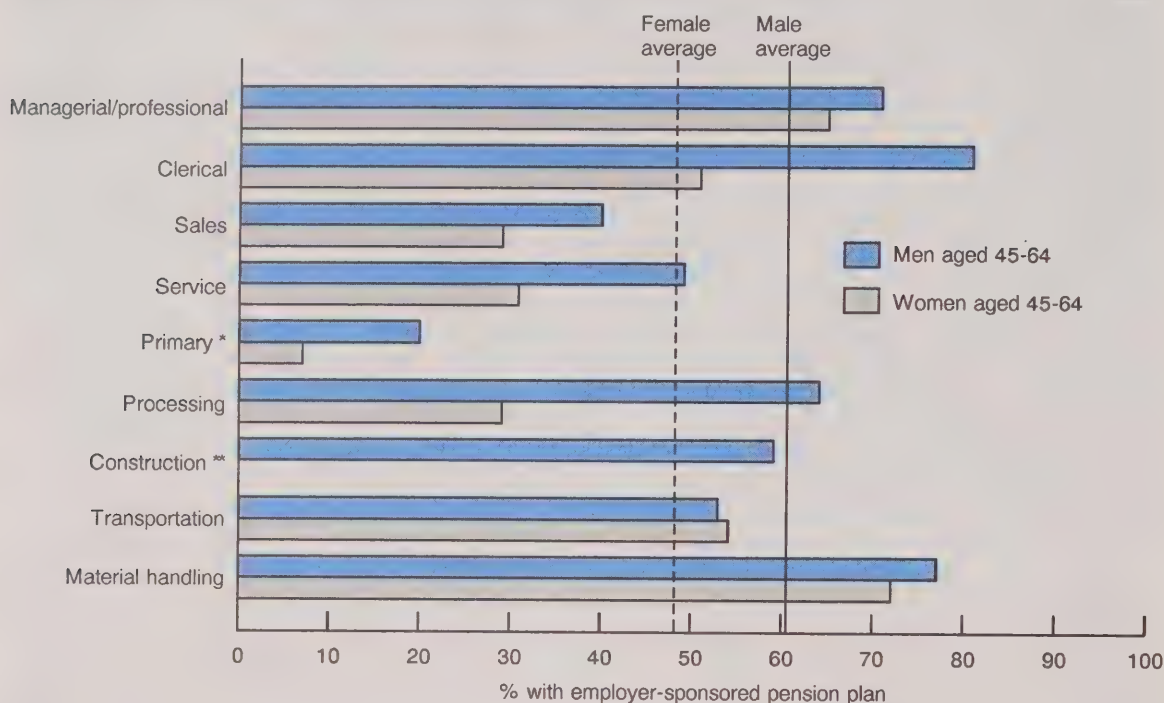
## RRSPs most common among high-income earners

Fully two-thirds of all working Canadians aged 45 to 64 have contributed to RRSPs. Not surprisingly, participation rates were highest (79%) among workers with personal incomes of \$40,000 or more, yet half of workers making less than \$20,000 also had RRSP savings (Table 2).

Generally speaking, managers and professionals had the highest RRSP participation rates. Rates were almost as high in sales occupations, where pension plan coverage is low, so it seems likely that these workers were using RRSP contributions to compensate for lack of RPP coverage. On the other hand, participation in both RPPs and RRSPs was low in service occupations, where few workers had personal incomes of \$40,000 or more.

Chart A

Pension plan coverage in 1991 differed significantly by occupation.



Source: Survey on Ageing and Independence

\* Includes farming, fishing, forestry and mining.

\*\* Estimate too small to be released.

### Other investments are made by younger workers

Decidedly fewer workers, about 37%, prepare for retirement using investments other than RRSPs (for example, stocks and bonds, buying property other than a home). On average, 39% of workers aged 45 to 54 were preparing for retirement this way, compared with about 32% of older workers. The highest rate of "other investment," at 61%, was found among workers with personal incomes of \$60,000 and over.

### Younger workers have more consumer debts

While a majority of workers had RPPs or RRSPs, and a substantial minority had other investments, 21% had debts of at least \$5,000 (other than their mortgages). Half of this group had car loans, one-third had personal loans, and another third had other debts – including credit cards – to pay off (these figures are not mutually exclusive).

**Table 2**  
**Financial assets of workers aged 45 to 64 by personal income, 1990**

	Number of workers*	Proportion with		
		Employer- sponsored pension plans (RPPs)	Registered retirement savings plans (RRSPs)	Other investments**
	'000	%		
<b>All workers aged 45 to 64</b>	<b>2,220</b>	<b>57</b>	<b>67</b>	<b>37</b>
Less than \$20,000	600	24	49	26
\$20,000 – \$39,999	830	64	69	31
\$40,000 – \$59,999	470	81	79	48
\$60,000 and over	320	69	79	61

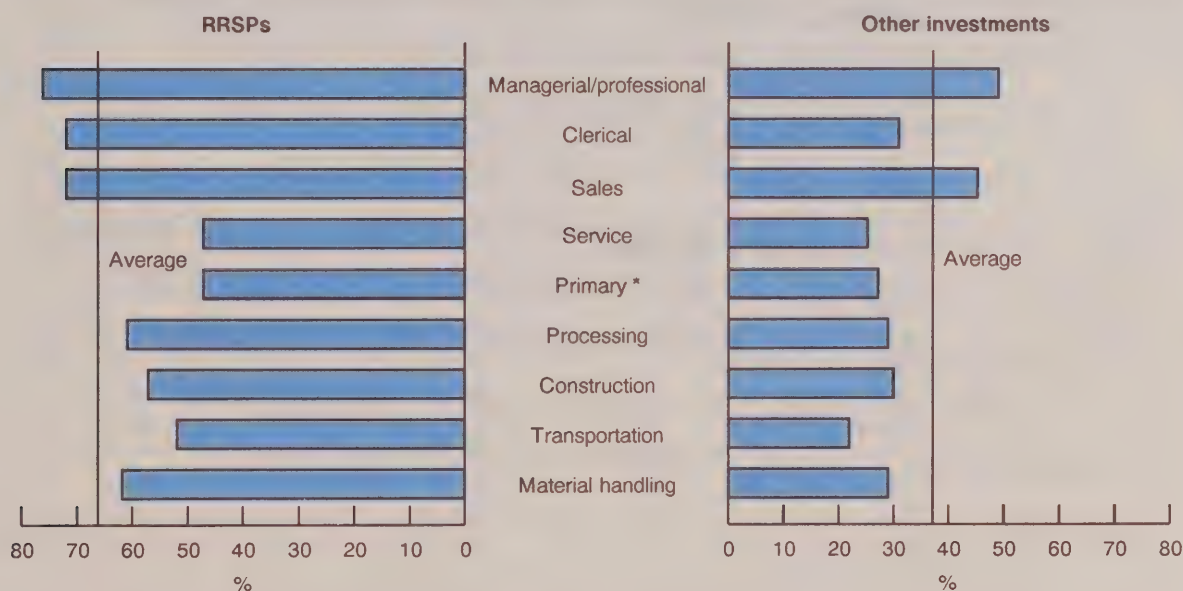
Source: Survey on Ageing and Independence

\* Excludes respondents who did not disclose personal income information.

\*\* Includes property bought for investment purposes and financial instruments such as stocks and bonds.

**Chart B**

**In 1991, RRSPs were the most popular form of retirement savings for workers aged 45 to 64.**



Source: Survey on Ageing and Independence

\* Includes farming, fishing, forestry and mining.



Younger workers were more likely to have such debts: 23% versus 15% of older workers. This probably reflects the fact that almost 60% of 45 to 54 year-old workers were financially responsible for a child or other family member. In contrast, less than one-third of 55 to 64 year-olds had dependants.

## Property ownership

Property is generally a family, not an individual, asset: the needs, expectations and resources of the family dictate the size and cost of its home and whether it can afford to own other real estate, such as a vacation home or rental property.<sup>7</sup> Therefore, the property ownership of workers aged 45 to 64 is discussed in terms of household, not personal, income.<sup>8</sup>

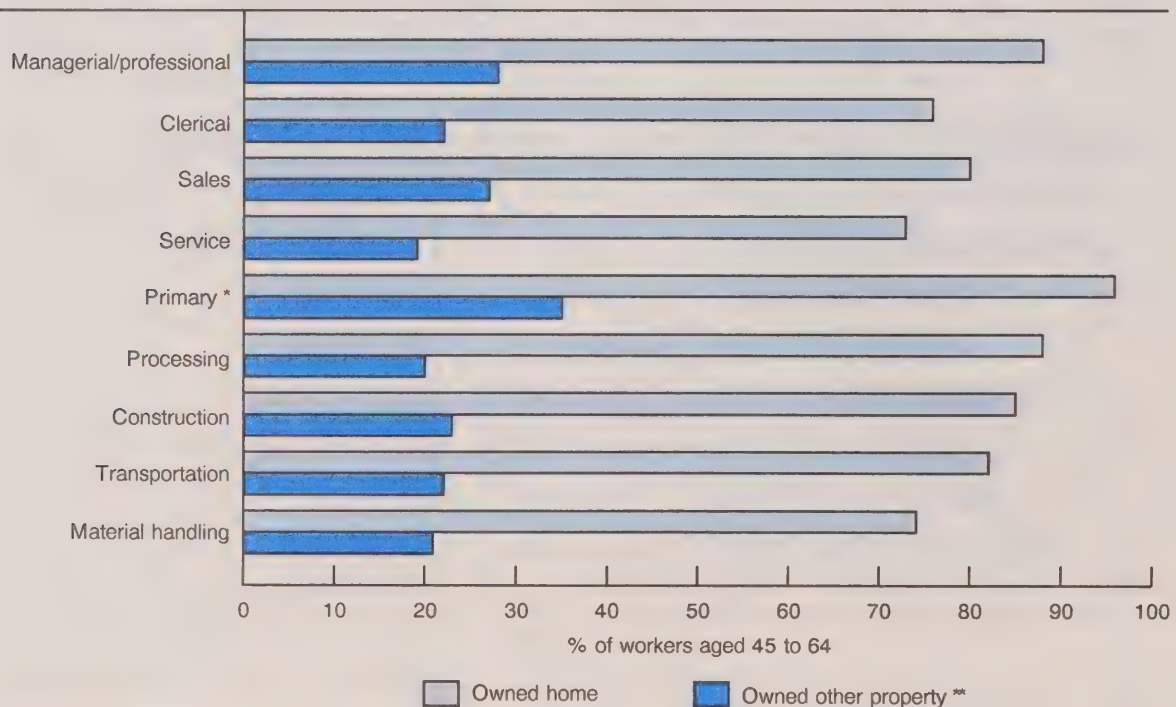
## Most workers are homeowners

For many working people, their most important capital asset is the equity invested in their homes. About 80% of working Canadians aged 45 to 64 owned their homes in 1991, with the proportion being slightly higher for younger than for older workers. Almost all workers in the \$60,000 and over household income bracket owned their homes; over half of those with incomes under \$20,000 owned the house they lived in.

Almost 51% of homeowners estimated that their house was worth less than \$150,000; another 42% placed its value in the \$150,000 to \$299,999 range. As expected, workers with high household incomes were much more likely to own expensive homes: over two-thirds of those with at least \$60,000 had homes priced at \$150,000 or more.

Chart C

About one in four workers owned other property in 1991.



Source: Survey on Ageing and Independence

\* Includes farming, fishing, forestry and mining.

\*\* Includes vacation homes, rental or business property.

### Pre-retirees look to the future

About two-thirds of Canadian workers believe they will have enough income to enjoy retirement. Younger workers (those aged 45 to 54) are a little more confident about the soundness of their financial situation. But this might be expected, since relinquishing a steady paycheck is a more imminent prospect for older workers.

There is also a definite difference in the attitudes of men and women. Women are somewhat less sanguine about their financial security: 60% of them, compared with 67% of men, believe their retirement income will be sufficient. The concern is even more marked among women aged 55 to 64: only one-half are satisfied with their projected retirement income compared with almost two-thirds of younger women. One-quarter of older women workers have part-time jobs, and although recent legislation requires that pension plans be offered to part-timers with two years of seniority, this measure is not likely to provide much financial assistance to older workers soon heading into retirement.

### Two-thirds of homeowners are mortgage free

For most workers, home equity seems to far outweigh their mortgage liability. In 1991, 66% owned their homes free and clear. And although the remainder did have mortgages, the balance owing was generally quite modest. It amounted to less than \$25,000 for 33% of mortgage-holders, and \$25,000 to \$50,000 for another 27%. As one would expect, younger workers were more likely to carry a mortgage – 39% compared with 24% for workers aged 55 to 64. And, of course, younger mortgage-holders tended to owe the bank more, but it was the higher income households (\$60,000 and over) who were most likely to carry large mortgages on their more expensive homes.

### One in four own property for leisure or business

One-quarter of working Canadians aged 45 to 64 owned property other than the house they lived in.

Such ownership could represent either a leisure or a business asset, but whatever the reasons for acquisition, they appear to be equally compelling for both age groups, as there was no real difference in the average ownership rates of both older and younger workers. However, older workers were more likely to hold valuable properties – 38% compared with 30% of younger workers estimated that their other property was worth at least \$150,000.

### Equity in most property is over \$100,000

The equity in property – whether a home, other property, or both – can be calculated by subtracting the amount still owing on the mortgage from its estimated selling price.<sup>9</sup> This reveals that almost two-thirds of property-owning workers had a net equity of \$100,000 or more. The higher the worker's household income, the greater their equity: 44% of workers with incomes of \$60,000 and over had equity of \$200,000 or more, compared with the average of 31%. Well over half the workers in the lower household income brackets (less than \$40,000) had equity of under \$100,000.

### Summary

Generally speaking, working Canadians aged 45 to 64 seem to be heading towards retirement with reasonably solid financial security. The majority have private pension plans, RRSPs, and own their homes. Many have made other investments in preparation for retirement, and own property other than the home they live in. The equity of the majority of home and property owners exceeds \$100,000.

The essence of the matter is income: from that well-spring flows most of the benefits working Canadians are accumulating for their retirement. Workers with



high personal incomes have greater resources with which to make financial plans for the future, starting with the much greater likelihood that they have an employer-sponsored pension plan. In addition to private pensions, high income workers have higher RRSP participation rates, more opportunities to make other investments, and homes of above-average value.

On the other hand, many pre-retirees do not now enjoy such favoured circumstances, and probably will not achieve them before retiring. For these workers, their "golden years" may be tarnished. □

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## Notes

<sup>1</sup> These income data cover pre-tax income received from all sources in the 1990 calendar year. The response rate for this question was 77%; all estimates in this article have been calculated excluding non-response.

<sup>2</sup> The nine occupational groupings in this article comprise the following:

Managerial and professional: managerial and administrative; natural science, engineering and mathematics; social science; religion; teaching; medicine and health; artistic, literary and recreational

Clerical

Sales

Service

Primary: farming, fishing, forestry and mining

Processing: processing, machining and product fabricating, assembling and repairing

Construction

Transportation

Material handling: material handling, other crafts.

<sup>3</sup> The "other crafts" component of the material handling occupational grouping includes a high proportion (60%) of workers with personal incomes of \$40,000 or more in 1990, compared with 16% of those in material handling occupations. Despite the dissimilar income distribution, the two occupation groups are amalgamated to meet sample size requirements for analysis of other variables. Also, these two groups have traditionally been amalgamated in Labour Force Survey-based data releases.

<sup>4</sup> These characteristics match the profile revealed by Frenken and Maser (1992). They showed that the rate of pension plan coverage in the public sector is almost double that of the private sector, and that over three-quarters of unionized workers had registered pension plans compared with less than one-third of non-unionized workers.

<sup>5</sup> Since the survey did not ask respondents if they had contributed to a pension plan in a previous job, these figures may underestimate the benefits accruing to the workers in this age group.

<sup>6</sup> Pension coverage is lowest in trade, business and personal services, and miscellaneous services – industries that employ almost 40% of the total female workforce. These industries also have a heavy concentration of workers in sales and service occupations, which provide pension coverage at rates well below the average. See also Frenken and Maser (1992).

<sup>7</sup> It is assumed that for most people, inheritance does not play a part in the direct acquisition of real estate.

<sup>8</sup> Household income is 1990 pre-tax income from all household members. The response rate for this question was 69% and all estimates were calculated excluding non-response.

<sup>9</sup> The net worth of financial assets, (that is, RPPs, RRSPs and other investments) is not known.

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# About productivity

Diane Galarneau and Cécile Dumas

**F**or many years Canada enjoyed a favourable growth in productivity compared with other countries. Consequently, Canadians experienced a remarkable increase in their standard of living in the post-war period. But since the beginning of the 1980s, this lead has slipped.

Because of its small domestic market, Canada is heavily dependent on exports to sell its products and thus benefits from economies of scale. It must be able to offer its products at competitive prices. This is even more important in a period of freer international trade. To remain competitive and increase – or at least maintain – our standard of living relative to other countries, productivity must continue to grow.

This article discusses the concept of productivity and its measurement. Since productivity and production costs are linked to the competitiveness of a country, unit labour cost and labour compensation are also examined. In addition, productivity trends over the last 30 years are analysed.

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This article is based on information available as of November 23, 1992. It does not reflect revisions to 1991 data made after that date.

## How is it measured?

The economic growth of a country is usually measured by its increase in production or the gross domestic product (GDP), which comes from two sources: a larger quantity of production factors used (inputs) and/or an increase in productivity. Productivity is therefore considered to be a component of growth.

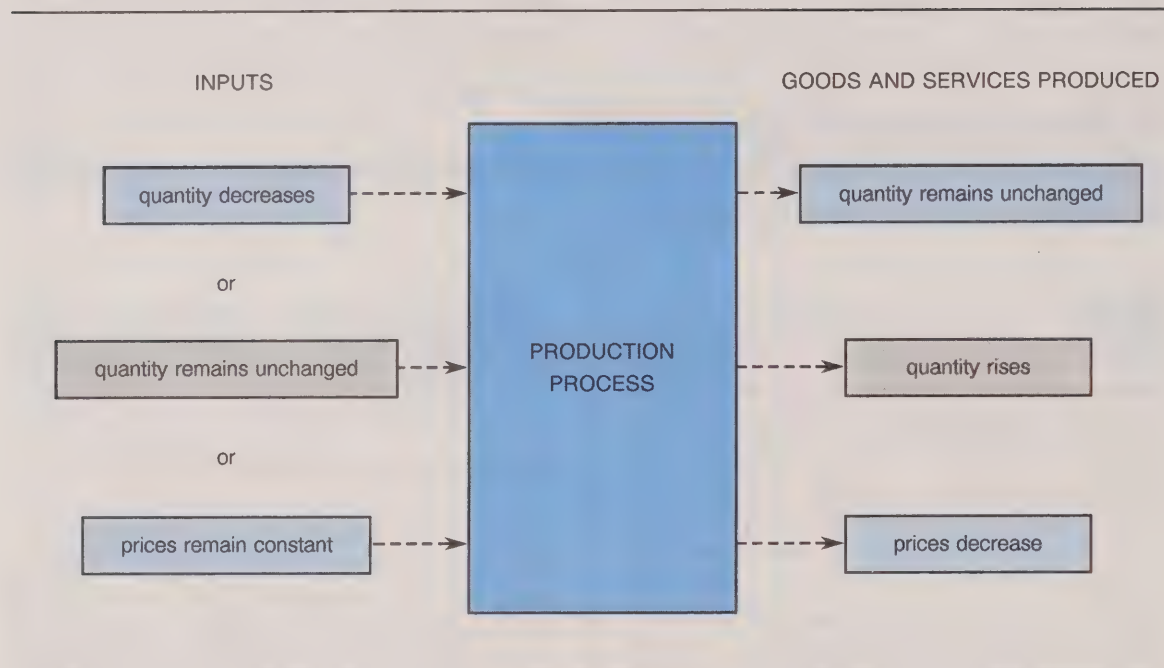
There is an increase in productivity if the quantity of inputs decreases while the quantity of goods and services produced remains constant, or the quantity of goods and services produced increases with the same quantity of inputs. There is also productivity growth if the price of goods and services produced decreases while the price of inputs remains constant (Figure 1).

## Why measure it?

The productivity measure has several purposes. It is used principally to compare the economic performance of one country with that of another. It can also be used as an efficiency indicator; for example, it can help identify which industry sector is losing ground while another is expanding rapidly.

Figure 1

Productivity growth results from one of these scenarios.



Unions use it to justify wage increases; if labour productivity improves, they may claim a part of that increase.<sup>1</sup> Lastly, the productivity measure can be used by company managers to compare their performance with that of competitors or with that of the industry as a whole.

Productivity can be examined in terms of the full range of production factors – capital, labour, and intermediate goods and services (including natural resources) – or a single factor such as labour.

## Labour productivity

Although for a number of years Statistics Canada has produced productivity measures that incorporate all production factors, these are relatively new and considered experimental (see *Multifactor productivity index*). The most widely used measure is that of

labour productivity. However, it is considered a partial one in that, theoretically, it reflects only the contribution of the labour factor.

Labour productivity is usually calculated by production or real gross domestic product (GDP)<sup>2</sup> per person-hour worked or by production (real GDP) per person employed.<sup>3</sup> This article is concerned only with the first measure.

The productivity index of the largest segment of the economy published by Statistics Canada is that of the business sector, which excludes government administration and non-commercial services (most public education and health services, for example).<sup>4</sup> The service industries which have a productivity measure are: transportation and storage, communication, wholesale and retail trade, and community, business and personal services.

### Labour productivity and the standard of living

A link is often made between an increase in labour productivity and growth in the standard of living.<sup>5</sup> These two variables have, in effect, developed in tandem during the post-war years (Chart A).

The link between labour productivity and the standard of living is established in the following way: an increase in productivity decreases the unit labour cost which leads to a decrease in the price of goods and services produced, a growth in domestic and foreign consumption (therefore more exports), and lastly, an increase in production. Initially, an increase in production will entail a greater use of equipment and, eventually, an increased demand for

### Multifactor productivity index

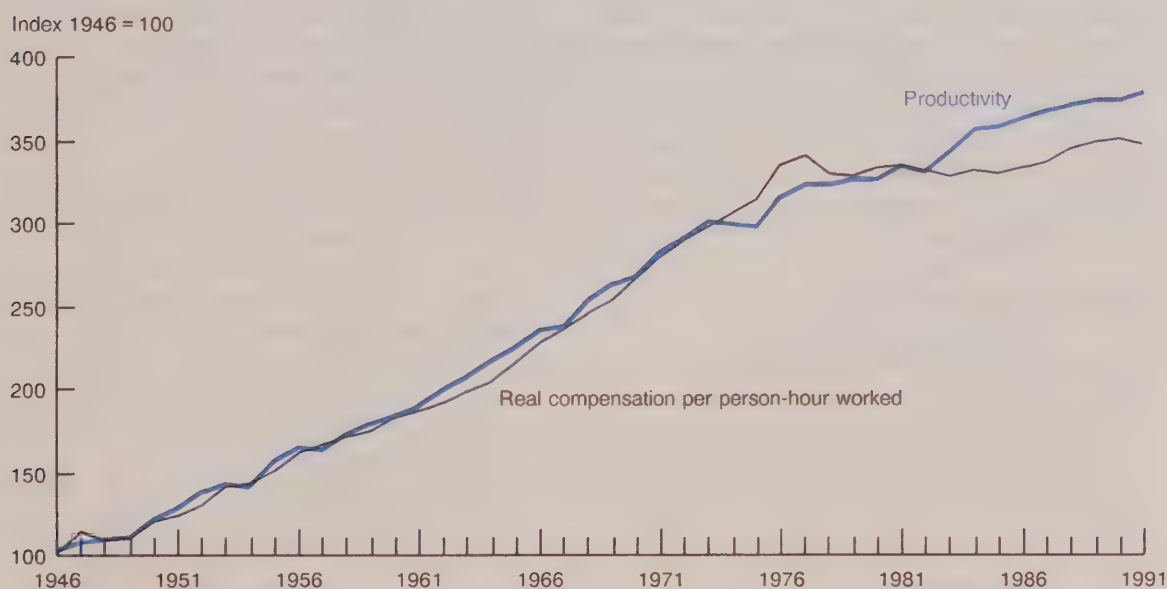
The multifactor productivity index, also known as total factor productivity, includes factors such as labour, capital, materials, and services used as inputs in the production of goods and services.

The multifactor productivity index may be the best indicator economists have of technical progress. However, it also reflects other factors that influence productivity – economies of scale, for example. For more information on the concept of multifactor productivity, see *Aggregate productivity measures* (Statistics Canada, 1992).

workers. This would lead to growth in employment and real wages and, consequently, in the standard of living. Within a country, however, there can be disparities in productivity by region, as well as by industry, which can produce differences in the standard of living.

Chart A

**Productivity and the standard of living have risen in a similar way in the post-war years.**



Sources: Input-Output Division and Consumer Price Index



### Factors affecting labour productivity

Because of the method used to calculate the labour productivity index, variations in this measure can hide fluctuations in many factors other than labour. In a closed economy, the most important variables likely to influence the index are those relating to: labour (such as investment in human capital, the type of management and labour relations); capital investments; research and development (R&D); and government regulations (Tawfik and Chauvel, 1980).

In an open economy, other elements enter the equation. If the value of a country's currency is high – as seen these past few years – this can reduce the demand for its products, since the price of its exports increases and that of its imports decreases. Thus, even if its exporting industries register an increase in productivity, this does not necessarily mean a lower price for foreign consumers. On the other hand, a high exchange rate encourages industries to be innovative in order to remain competitive. Some analysts observed this phenomenon in the United States at the beginning of the 1980s. As the exchange rate of the U.S. currency was high,<sup>6</sup> many manufacturers were obliged to rationalize operations and replace equipment to remain competitive internationally (Economic Council of Canada, 1992).

### Two related indices

The productivity index is only one aspect of the economic performance of a country, and it is difficult to approach this topic without touching on the question of unit labour cost (ULC). The ULC is defined as the cost (or compensation)<sup>7</sup> of labour per unit of real output or, alternatively, by the ratio of labour compensation per person-hour worked to labour productivity.<sup>8</sup> ULC growth does not necessarily damage a country's competitiveness. If the country's currency

depreciates vis-à-vis its foreign competitors, the country may remain competitive internationally despite growth in domestic ULC.<sup>9</sup>

Inflation can affect the ULC unless it is widespread and at a similar level in most of the countries that are trading partners. An overall increase in prices is usually followed by rising wage demands, which can lead to inflationary spirals such as those seen in the 1970s and 1980s. Obviously, when compensation is affected, the ULC is also. The ULC reflects both a country's inflation rate (because of its numerator, labour compensation per person-hour) and any improvement in competitiveness through technological change (because of its denominator, labour productivity).

Unless a country has a net advantage over competing countries in the production of a good or service, or can specialize in products or services for which price is less important in the decision to purchase,<sup>10</sup> the ULC will always have a considerable impact on international trade. That is, it affects the sale price of goods and services produced.

### Relationship between the indices

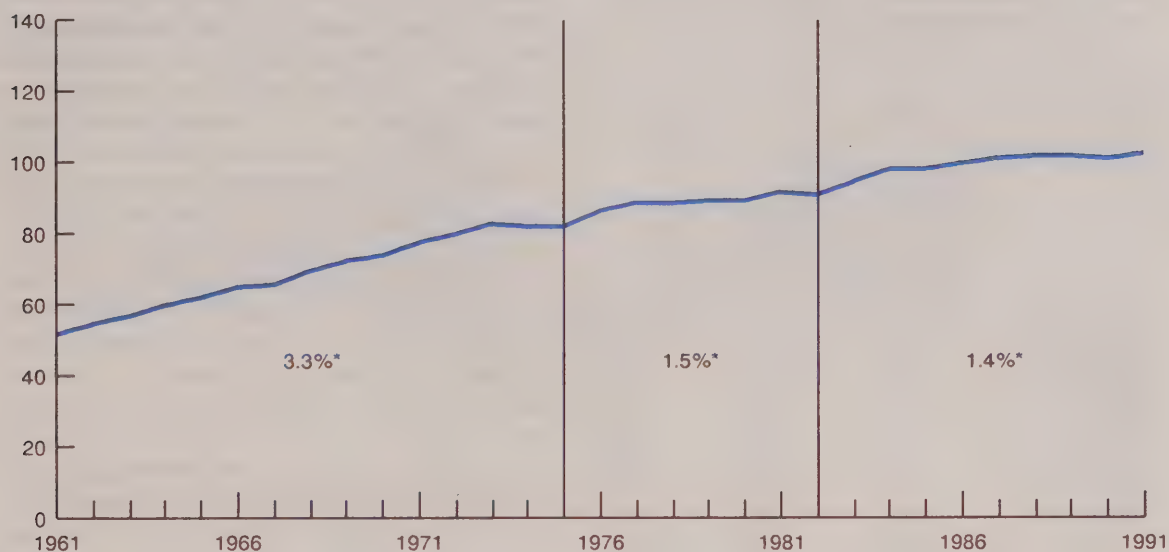
The growth rates of the ULC and labour compensation move inversely to the rate of growth in labour productivity.<sup>11</sup> Thus from 1961 to 1973, while the productivity index grew at an impressive rate (Chart B), those of the ULC and labour compensation increased at a slower rate (Chart C). The opposite occurred from 1973 to 1982, and from 1984 to 1989, when large increases in the ULC and compensation indexes were accompanied by more modest increases in the productivity index.

But, at the onset of the recent recession, labour productivity dropped 1.2% between 1989 and 1990, the biggest decline since Statistics Canada began estimating this measure in 1946. Labour compensation growth slowed, while the unit labour cost increased at almost the same pace as the

Chart B

**Growth in the productivity index has slowed since 1975 ...**

Index 1986 = 100

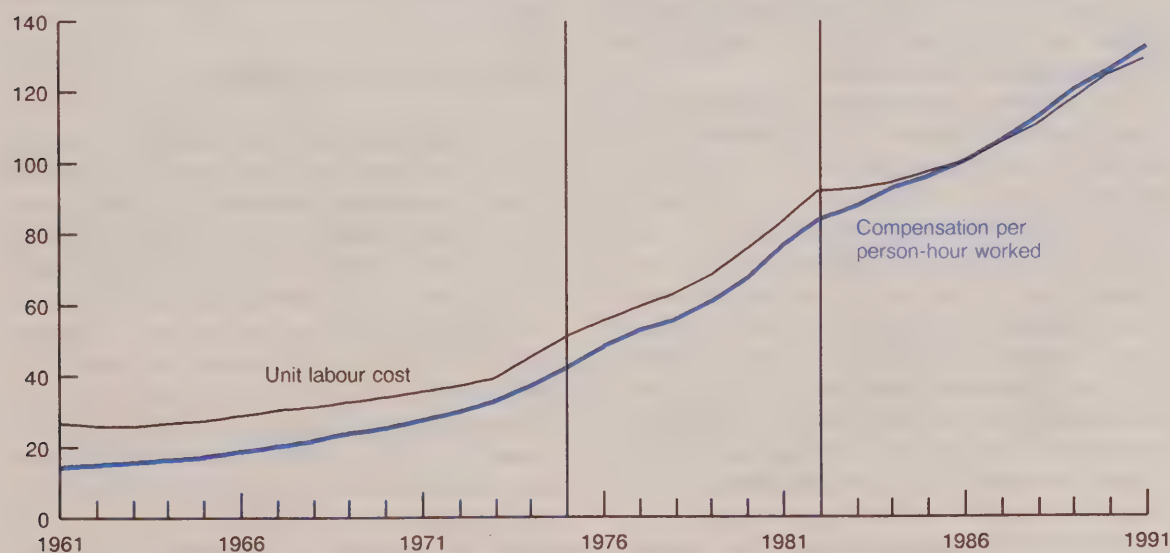


\* Average year-over-year % change – see Table 2.

Chart C

**... while compensation and unit labour cost have progressed rapidly.**

Index 1986 = 100



Source: Input-Output Division

previous year. However, as the recession progressed into 1991, there was a surge of 1.8% in labour productivity, but this time the ULC recorded the lesser increase of the two other measures (Table 1).

Table 1  
Year-over-year change in the business sector indexes

	Labour produc- tivity*	Compen- sation per person- hour	Unit labour cost
	%		
1981-82	-0.9	10.0	10.9
1982-83	4.0	4.8	0.7
1983-84	3.5	5.1	1.5
1984-85	0.5	3.7	3.1
1985-86	1.6	4.8	3.2
1986-87	1.0	5.7	4.7
1987-88	0.9	6.3	5.4
1988-89	0.4	6.6	6.2
1989-90	-1.2	4.7	6.0
1990-91	1.8	5.6	3.7

Source: Input-Output Division

\* Real GDP per person-hour worked.

### Long-term trends

Most analysts agree that one of the challenges now facing Canada is to curb the decline of the productivity growth rate in order to re-establish Canada's competitive position in the global market.

If the years between 1961 and 1991 are divided into three distinct periods (1961 to 1975, 1975 to 1982 and 1982 to 1991), a marked drop in the average growth rate of the productivity index during the last two periods (3.3% compared with 1.5% and 1.4%, respectively) is evident. The drop between the first and second periods is often linked to the oil shock of 1973, felt by most industrialized countries. However, this event does not explain the weak average productivity growth rate during the third period (1982 to 1991). In view of these relatively weak growth rates, is Canada losing ground?

The declines observed in net exports between 1988 and 1991 are often cited as a

sign of the deterioration in Canada's competitive position (Chart D). However, several factors besides the decrease in the productivity growth rate are responsible for this. Among them are: the appreciation of the Canadian dollar (more than 21% between 1986 and 1991); the gap between the Canadian and U.S. central bank rates, which reached 4 percentage points in 1991; and the economic slowdown observed in most of the industrialized countries, especially in the United States (*Aggregate productivity measures*, Statistics Canada, 1992). Without downgrading the impact of the weak productivity growth rate on the competitive position of Canadian business, it is obvious that all these events have not made things any easier.

However, the recent growth in productivity together with a slower increase in the ULC may signal an improving situation (Table 1). Many businesses are giving greater attention to costs and productivity, and are adjusting more quickly to the vagaries of demand. Another encouraging sign is that, in spite of the economic slowdown, public and private investment has hovered around 16% of GDP<sup>12</sup> since 1988.

### Productivity by sector

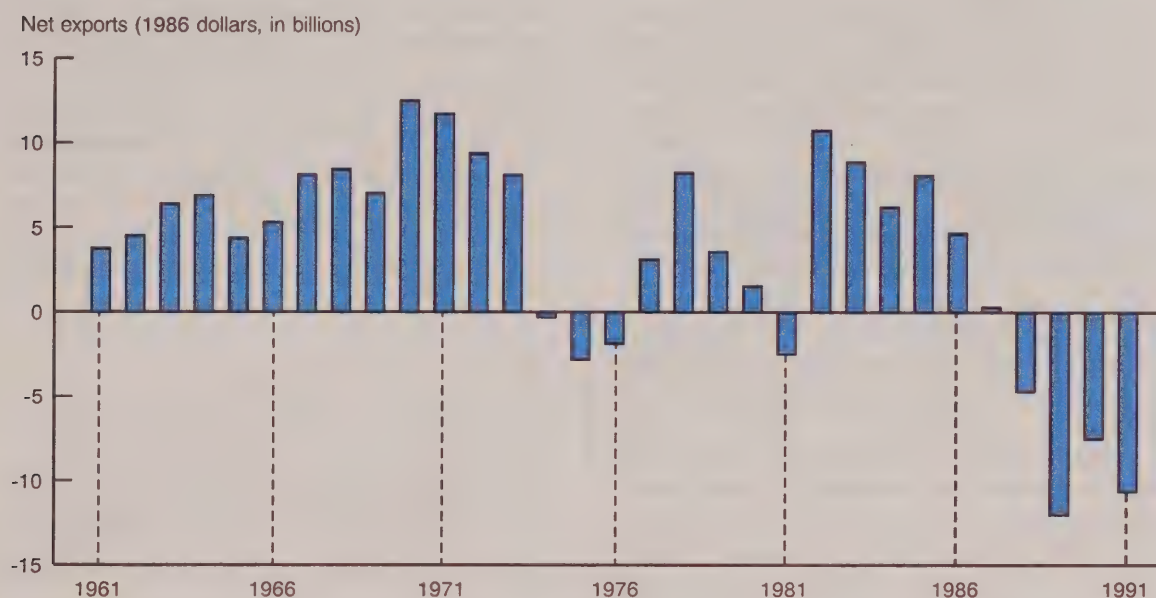
Up to this point, the discussion has centred on the business sector as a whole. But what is the situation at a more detailed level?

Historically, the productivity growth rate in the goods sector has always been higher than in the service sector (Table 2). The gap has nevertheless narrowed since the 1981-82 recession. In the service sector, an increase in productivity often results in an improvement in quality as opposed to a growth in quantity. But existing statistics do not permit a measurement of the value of an improvement in quality in certain industries. For example, automated banking machines have improved some of the



Chart D

Since 1988, Canada's competitive position appears to have deteriorated.



Source: Input-Output Division

Table 2

Average annual variation in the labour productivity index in the business sector\*

	1961- 1991	1961- 1975**	1975- 1982	1982- 1991	Proportion of GDP (1989)
			%		
<b>Business sector</b>	<b>2.3</b>	<b>3.3</b>	<b>1.5</b>	<b>1.4</b>	<b>100.0</b>
<b>Goods</b>	<b>3.0</b>	<b>4.0</b>	<b>2.5</b>	<b>1.8</b>	<b>47.2</b>
Agriculture	3.9	5.0	4.0	2.0	2.7
Manufacturing	2.7	3.7	1.5	2.2	25.4
Construction	1.4	0.9	5.0	-0.6	8.5
Other	..	..	..	..	10.6
<b>Services</b>	<b>1.7</b>	<b>2.5</b>	<b>0.7</b>	<b>1.3</b>	<b>52.8</b>
Transportation and storage	2.8	4.5	0.2	2.1	5.8
Communication	5.8	6.2	5.1	5.7	4.5
Wholesale and retail trade	1.9	2.6	0.1	2.3	15.7
Community, business and personal services	0.5	1.2	0.6	-0.5	16.4
Other	..	..	..	..	10.4

Source: Input-Output Division

\* Averages are geometric means.

\*\* Productivity growth rates are measured from the beginning to the end of each period; the last year of a period is also the first year of the next period.

services offered by the banking system in recent years. But since some aspects of these services have no direct costs, it is difficult to determine their value.

From 1961 to 1991, the four industries with the highest average annual growth rates were communication (5.8%), agriculture (3.9%), transportation and storage (2.8%) and manufacturing (2.7%). Although manufacturing places fourth, a slowdown in the growth rate of its productivity can be seen after the first period (Table 2). The size of this industry in proportion to the total GDP is such that it could affect the productivity growth rate for the entire business sector. As well, this industry produces the largest part of Canada's exports (from 75% to 80%).

However, manufacturing showed an improvement in its productivity growth rate between the second and third periods (1.5% and 2.2%, respectively). But even though Canada had a period of economic growth during most of the 1980s, the productivity growth rate has stalled since 1985 (Chart E).

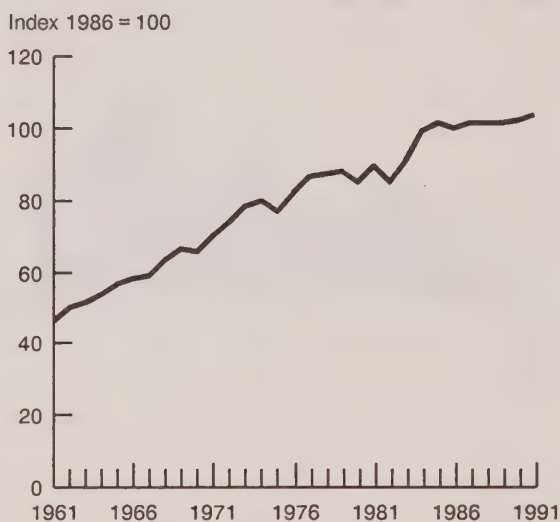
### Labour productivity during the recent recession

The decline in labour productivity experienced by the business sector between 1989 and 1990 was due to the 2.0% drop in the service sector. In the goods-producing sector, there was a slight improvement of only 0.4% that year. But encouraging signs in 1991 show a growth of 1.4% in the service-producing sector and a full 3.1% increase for the goods-producing sector.

Manufacturing seems to have adjusted rather fast to the recent recessionary conditions that have depressed demand for its products. In 1990, the labour productivity index showed a slight improvement over 1989 (0.9%) followed by a relatively high increase of 1.3% between 1990 and 1991. These increases contrast with movements generally seen in periods of recession, and

Chart E

**Since the mid-1980s, the productivity index for manufacturing has stalled.**



Source: Input-Output Division

are most likely due to a greater decrease in employment (-5.9%) than in real GDP (-5.1%) between 1989 and 1990, and similar declines of 7.8% and 6.6%, respectively, the following year.<sup>13</sup>

Certain factors appear to indicate an imminent improvement in manufacturing. For example, capital investments have grown during the last three years in spite of the recession, and R&D expenditures almost doubled in real terms between 1981 and 1991.

### Summary

Labour productivity is a broad concept, but it remains a valuable tool for analysis. It is often considered a component of economic growth and is used for establishing Canada's position among its international competitors. Labour productivity affects many aspects of our economy, one of which –

and by no means the least – is the standard of living. It varies according to many economic factors that are sometimes hard to isolate. Among these are elements relating to labour, capital investment, research and development, and government regulations.

During the 1980s, the average annual rate of growth of productivity held at around 1.4%. This contrasted with the 1961 to 1975 period, when the growth rate was more than twice as high. However, the estimated improvement in 1991 due to a moderate increase in unit labour cost indicates that

productivity is a greater concern for Canadian businesses faced with high competition in the global market.

Furthermore, the manufacturing industry shows encouraging signs in that it continued to make capital expenditures and invest in research and development, despite the recessionary climate. □

The authors wish to thank Aldo Diaz, Ronald Rioux, Erik Poole, and Marie Allard-Saulnier of Input-Output Division for their valuable comments and suggestions in reviewing this article.

## Notes

<sup>1</sup> However, an improvement in labour productivity is not solely attributable to a greater effort by the workforce. This could also result from the introduction of new technology which increases the quantity each worker produces. On the other hand, wage increases following productivity increases – for whatever reason – can be justified on the principle of the redistribution of profits resulting from increased productivity (Gunderson, 1980).

<sup>2</sup> Real gross domestic product (GDP) by industry is a measure representing the contribution of each industry to the total value of production in the economy; it is the value added by the industry's labour and capital to the intermediate inputs (in constant prices) used in production.

<sup>3</sup> Production (or real gross domestic product) per person employed has certain limitations, as the number of hours worked per week varies over a period of time. For example, with the growth of part-time jobs, the number of persons employed increased more rapidly than the number of hours worked, so that production per person employed increased less than production per person-hour worked. In addition, when making international comparisons, the measure of production per person employed also poses certain problems since the number of hours normally worked per week differs from one country to another. Production per person-hour worked is not subject to such considerations.

<sup>4</sup> Unlike the business sector which produces goods and services with a market price, the value of production in the excluded sectors is difficult to quantify. Therefore, Statistics Canada does not publish a productivity measure for the economy as a whole.

<sup>5</sup> In this article, the standard of living is estimated as labour compensation per person-hour worked adjusted for inflation throughout the period.

<sup>6</sup> From 1982 to 1986, the value of the American dollar in Canadian dollars remained between \$1.23 and \$1.39.

<sup>7</sup> Compensation includes wages and salaries, non-wage benefits and social benefits paid by the employer (contributions to Unemployment Insurance, the Canada and Quebec Pension Plans, Workers' Compensation and taxes for health care in Quebec and Ontario).

<sup>8</sup> The unit labour cost (ULC) is calculated according to the following formula:

$$\text{ULC} = \frac{\text{total labour compensation}}{\text{real gross domestic product (GDP)}}$$

$$\text{Since } \frac{\text{labour}}{\text{productivity}} = \frac{\text{real GDP}}{\text{person-hours worked}}$$

$$\text{therefore, real GDP} = \text{labour productivity} * \text{person-hours worked.}$$

The ULC can also be written as follows:

$$\text{ULC} = \frac{\left[ \frac{\text{total labour compensation}}{\text{person-hours worked}} \right] * \text{person-hours worked}}{\text{labour productivity} * \text{person-hours worked.}}$$

And lastly:

$$\text{ULC} = \frac{\text{labour compensation per person-hour worked}}{\text{labour productivity.}}$$

<sup>9</sup> Within the same country, two factors affect the ULC: labour productivity which, when it increases, decreases the ULC, and labour compensation which varies in the same direction as the ULC. For more information, consult *Aggregate productivity measures* (Statistics Canada, 1992), pp. 77-79.

<sup>10</sup> When the price has little importance in the decision to purchase a good or service, this good (or service) is considered to have a low price elasticity. This can be the case for utilitarian goods, luxury goods, or goods having only one producer.



## Notes – concluded

<sup>11</sup> The ULC being the ratio of labour compensation per person-hour worked to labour productivity, an increase in the latter signifies an increase in the denominator of the ULC, and, all things being equal, a decrease in the ULC. As labour compensation per person-hour worked is the numerator of the ULC, its increase, all things being equal, causes a rise in the ULC. The ULC and labour compensation per person-hour worked are therefore inversely proportional to productivity. For more

information, consult *Aggregate productivity measures* (Statistics Canada, 1992), pp. 77-79.

<sup>12</sup> See Statistics Canada, 1991 and 1989. Residential construction investments and inventories are subtracted from total GDP in this calculation.

<sup>13</sup> For a discussion on output per employee (a proxy for labour productivity) in manufacturing on a monthly basis, see the supplement, "The labour market: year-end review," in this issue (Cross, 1993).

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# Note on RRSP contributions and payouts

Hubert Frenken

**I**n recent years, contributions to and income from RRSPs have experienced some dramatic changes, primarily because of two factors: amendments to legislation and the recession. In the 1990 tax year, the recession, coupled with the removal of some contribution opportunities, resulted in the first ever decrease in both contributors and total contributions (-2% and -16%, respectively). In 1991, however, the number of contributors increased 14%. And contributions grew a remarkable 30% - the largest annual increase in 15 years.

This growth was a direct consequence of the implementation of new Revenue Canada rules, standardizing the tax treatment of all private retirement programs. The changes permitted new or increased contribution opportunities for many high-income taxpayers. (High-income earners have traditionally had the highest rates of participation and have maximized their contribution opportunities.) Although this degree of growth is unlikely to persist, RRSPs will probably continue to attract more contributors and growing contributions.<sup>1</sup>

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While income from RRSPs (as cash withdrawals and annuity payments) increased at annual rates of about 14% between 1988 and 1990, the amount paid out in 1991 was 23% greater than in the previous year. This increase, reflecting widespread cashing-in of RRSP savings, may be attributed to financial difficulties encountered during the recession. Although 1992 data will not be available for some time, this high level of withdrawals likely continued that year, partially in response to the Home Buyers' Plan implemented in March.<sup>2</sup>

Table 1  
RRSP contributors and beneficiaries,  
1988 to 1991

	1988	1989	1990	1991
Contributors ('000)	3,762	4,137	4,037	4,596
% change	9	10	-2	14
Contributions (\$ millions)	12,834	13,336	11,227	14,648
% change	12	4	-16	30
Beneficiaries* ('000)	665	740	792	914
% change	..	11	7	15
Payments** (\$ millions)	3,073	3,560	3,976	4,874
% change	..	16	12	23

Source: Small Area and Administrative Data Division

\* Includes taxpayers reporting RRSP income.

\*\* Includes cash withdrawals and annuity payments, but excludes RRIF benefits.

## Notes

<sup>1</sup> For a detailed description of the legislative changes and an analysis of the prospects of RRSP growth in the 1990s, see Frenken (1991 and 1990).

<sup>2</sup> The 1990 data show that 40% of RRSP income was reported by taxfilers under 55 years of age (virtually all as cash withdrawals) and another 22% was paid to those aged 55 to 64 (more than 90% as withdrawals). For further information on these data and a description of the Home Buyers' Plan see Frenken (1992).

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The 1991 Census collected data on an exceptionally wide range of demographic and socio-economic characteristics. Among the most frequently requested blocks of census data are those covering the labour force experience of the Canadian population. These data include such variables as: labour force activity, number of hours and weeks worked, full- or part-time work status, detailed industry affiliation and occupation and class of worker (paid worker, self-employed, unpaid family worker).

Four census publications addressing specific aspects of the Canadian labour market have just been released:

- *Labour force activity* (Catalogue 93-324) presents data on the labour force activity of the population 15 years and over by selected demographic and educational characteristics. Information about the average number of weeks worked in 1990 by age and sex, as well as historical data on labour force activity are included.
- *Labour force activity of women by presence of children* (Catalogue 93-325) documents the number of working

mothers in the country, presenting data on the labour force activity of women 15 years and over by age, marital status and number of children at home.

- *Industry and class of worker* (Catalogue 93-326) assesses the impact of economic restructuring on Canadian workers, comparing labour force data from the 1986 and 1991 Censuses at the detailed industry level, using the 1980 Standard Industrial Classification. Data are provided for class of worker by sex.
- *Occupation* (Catalogue 93-327) captures the shift in the way workers earn a living as the need for new skills emerges and old ones decline, and publishes detailed occupational data by sex from both the 1986 and 1991 Censuses, using the 1980 Standard Occupational Classification. □

##### *Census income data*

Data are collected on the amounts of income received by Canadians from different sources during the year preceding the census. From these data, employment income, government transfer payments, and family and household incomes are derived. Census income data can be combined with many other census variables, and are available for smaller population groups as well as small geographic areas.

In April, two census publications on income will be released:

- *Selected income statistics* (Catalogue 93-331) provides 1985 and 1990 income statistics for individuals, families and households, in constant (1990) dollars. Tables show the distribution of total income and employment income for the population 15 years and over by sex, age, work activity and education. Census family and household income are provided by family structure, number of wage earners, and household type and size. The incidence of low income among families, unattached individuals and the general population is also calculated.
- *Employment income by occupation* (Catalogue 93-332) compares the average employment income of working men and women in 1985 and 1990 in constant (1990) dollars by detailed occupation and work activity. This is the only published source of detailed data on earnings by occupation.

Geographic coverage is provided at the Canada, provincial and territorial levels for all publications; in addition, *Selected income statistics* also contains census metropolitan area data.

A series of 13 labour- and income-related summary tables for smaller geographic areas, each featuring two or three interrelated variables, will also be released in the summer. Coverage includes enumeration areas, census divisions and subdivisions (counties and municipalities), and census tracts (neighbourhoods). Tabulations are available on magnetic tape, diskette or paper.

To order any of these products, contact the nearest Statistics Canada Reference Centre or Publication Sales, Statistics Canada, Ottawa, K1A 0T6. □

### *Guide to all publicly available census tables*

The *1991 Census tabulation guide* is an electronic index of all data tabulations published by the 1991 Census of Population. This valuable reference tool details the contents of tables, and the geographic levels for which they are available. Users can look for sources of data using either a keyword or a variable search. The guide identifies the tables where the variables are located, the user selects the one that seems suitable, and the system then lists the geographic detail at which the data are presented. Once the table is chosen, the guide identifies where it can be located or purchased. (If the necessary mix of variables is not available, or the standard geography is not appropriate, the user can order a custom tabulation.)

The guide is able to print order forms to send to the nearest Reference Centre; it also lists depository libraries and authorized booksellers that carry Statistics Canada products. The \$15 guide is available on diskette for IBM-compatible personal computers operating with DOS.

For users who want detailed information about the concepts and specific definitions of variables, the *Combined 1991 Census tabulation guide and dictionary* links the *1991 Census electronic dictionary* to the guide. This comprehensive package will enable users to access definitions of variables and search for tabulations. The *Combined 1991 Census tabulation guide and dictionary* will be available in late 1993 for \$50. For more information or to order these products, contact the nearest Statistics Canada Reference Centre. □

### *Postal code data linked to census geography*

Separately, census and administrative data provide valuable information about Canadians at a detailed geographic level;



together, they produce a comprehensive demographic and socio-economic portrait of the people in a neighbourhood. What prevents the amalgamation of the two sources is the geographic base used by each system: administrative data are based on postal codes, while the census uses a system based on census enumeration areas (EAs).

To solve this difficulty, Statistics Canada offers an updated edition of the *Postal Code Conversion File* (PCCF). The PCCF is an electronic geographic code linkage file that matches postal codes to EAs, thereby allowing administrative data to be linked to census data (and vice versa) for any neighbourhood or small area.

By incorporating changes in the 1991 Census geographic boundaries, the file now lets users link the most recent census data to postal code areas. For example, annual administrative data – such as RRSP contributions or unemployment insurance claims – can be grafted onto the quinquennial census profile, thus providing intercensal estimates of such neighbourhood characteristics as income and labour force activity. Similarly, the PCCF can be used to analyse market concentrations and distributions for goods and services in a target area.

The PCCF provides the following information for each of over 600,000 postal codes:

- postal code;
- name of community (from Canada Post);
- province or territory;
- census enumeration area (EA), and hence other standard census geographies, such as census divisions, census metropolitan areas, census subdivisions, and federal electoral districts; and
- a co-ordinate expressed in latitude and longitude, and a universal transverse mercator (UTM).

The *Postal Code Conversion File* is available for Canada, and for each province and territory. For information, contact your nearest Statistics Canada Reference Centre. □

### *One-quarter of workers receive employer-supported training*

Over 3.2 million Canadian workers, 27% of the employed labour force, took advantage of some type of formal employer-supported training in 1991. In the great majority of cases, their employers had recommended and/or funded the training.

Detailed data on recent trends in work-related education are now available from the 1992 Adult Education and Training Survey (AETS). The AETS, a supplement to the January 1992 Labour Force Survey, was sponsored by Employment and Immigration Canada and conducted in about 45,000 households. Respondents aged 17 and over were asked to identify any studies they had pursued during 1991. While the survey design emphasized employment-related training, learning that was not directly related to employment was also examined.

Additional highlights of the 1992 AETS findings include:

- In 1991, workers were enrolled in over 3.9 million courses, and in almost 534,000 programs leading to a certificate, diploma, degree, or completion of an apprenticeship.
- About half (47%) of those workers receiving training already had post-secondary qualifications.
- The most common fields of study for program participants were engineering technologies (82,000 programs), business and commerce (59,000) and financial management (42,000).



- Among course participants, data processing and computer science technologies (459,000 courses), industrial management and administration (263,000) and medical laboratory and diagnostic techniques and treatment (235,000) were the most popular fields.
- At 53%, mathematicians, statisticians, systems analysts and related occupations recorded a higher rate of employer-supported training than any other occupation group.
- The large majority of both program and course participants reported that they used their training to a great extent in their jobs.

The 1992 AETS expands the scope of earlier adult education surveys. Although it is similar to the 1990 AETS, caution should be exercised when comparing data from the two surveys, because of differences in collection methods and questionnaire design flow. (See "What's new?", *Perspectives*, Autumn 1991, for highlights of the 1990 Adult Education and Training Survey; also, "Studying on the job", Summer 1992, for an overview of employer-sponsored part-time training.)

For more information about the public use microdata file of the 1992 Adult Education and Training Survey (AETS), contact Stephen Arrowsmith at (613) 951-0566. □

### *Reports examine lone-parent families and women in the workplace*

The situation of women in the 1990s is explored in two recently released reports. *Lone-parent families in Canada* looks at the rising number of families with one parent and *Women in the workplace*, second edition,

examines the labour force experience of working women. In addition to data culled from regular Statistics Canada publications, the reports include previously unpublished data from the General Social Survey, the Labour Force Survey, the Survey of Consumer Finances, the Absence from Work Survey, the Survey of Family Expenditures, and the National Child Care Survey.

*Lone-parent families in Canada* presents its findings in four sections: family and population characteristics; lone parents in the workplace; income; and, housing and household amenities. Highlights of the report include:

- In 1991, there were almost 1 million lone-parent families in Canada, an increase of 34% over 10 years. In comparison, the number of two-parent families with children rose just 6%.
- In 1991, 17% of Canadian children lived in lone-parent families, and women were the sole parent in 82% of these families.
- Over half of lone parents are either divorced or separated, but the number of lone parents who have never married has roughly doubled over the past decade, to about 1 in 5 female and 1 in 10 male lone parents in 1991.
- Unemployment is high among lone parents, with 16.8% of female and 15.7% of male lone parents unemployed, almost double the comparable figures for women and men in two-parent families.
- In 1990, female-headed lone-parent families had an average income of \$22,000, compared with \$57,000 for two-parent families with children; in fact, 61% of female-headed families reported incomes that fell below Statistics Canada's low income cut-offs.

Using a wide variety of sources, *Women in the workplace*, second edition, examines the labour force activity, earnings, benefits, child care, and household responsibilities of working women. Among the highlights of this report are:

- In 1991, 53% of all women aged 15 and over (5.6 million) were employed, up from 41% in 1975. In contrast, male employment fell from 74% to 67% of the male working-age population.
- The proportion of married women who were employed jumped from 47% to 56%, accounting for almost all of the growth in female employment during the 1980s. The rate for women with children has increased even more dramatically since 1981 – in 1991, 63% of mothers with children under 16 years of age were employed, compared with 50% in 1981.
- Women continue to earn less than men. In 1990, the average earnings of women employed full time, full year were 68% those of men, just 3 percentage points higher than in 1980.
- Employed women also make much less than men regardless of their educational attainment, although the gap does begin to close at higher levels of formal education.
- Women have consistently accounted for at least 70% of the part-time workforce in Canada over the past 15 years; in 1991, 26% of working women had part-time jobs, compared with only 9% of employed men.
- Even when they are working outside the home, women still maintain primary responsibility for housework. In 1986, they spent almost twice as much time as men performing unpaid household tasks.

*Lone-parent families in Canada* (Catalogue 89-522E) and *Women in the workplace*, second edition (Catalogue 71-534E) are available for \$40 each from Publication Sales, Statistics Canada, Ottawa, K1A 0T6. □

### *Report on decade of public sector pay released*

Quebec's public servants lost almost 4% of their paycheques to inflation during the 1980s. That is the estimate published in *La décennie 80 : qu'en est-il du pouvoir d'achat des salariés du secteur public québécois?*, the most recent report from the Institut de recherche et d'information sur la rémunération (IRIR). The 35-page study on trends in public sector pay and benefits responds to the demand for information from contract negotiators in business and labour, and uses the most recent data available from the Conseil du trésor du Québec.

The IRIR estimates that public sector employees as a whole lost 4.2% in real wages and salaries over the period 1980-81 to 1988-89. More specifically, workers in six of the eight occupational categories lost real wages, with professionals experiencing the largest drop (-13%). Service and maintenance workers, one of the lowest-paid groups, marked a modest 2.5% gain over inflation. Employees also lost 3% of the value of supplementary labour income (pension benefits, group insurance plans, and so on). Quebec's public servants therefore surrendered about 3.6% in real pay and benefits to inflation.

The IRIR points out that the loss occurred in the middle years of the decade. In the first two years of the 1980s, the public sector made substantial gains in pay and benefits, only to lose them as the 1981-82 recession took its toll. Real pay and benefits began to recover only from 1987 onward.



Copies of *La décennie 80 : qu'en est-il du pouvoir d'achat des salariés du secteur public québécois?* are available for \$20 (GST included) from the Institut de recherche et d'information sur la rémunération, 500, rue Sherbrooke Ouest, Bureau 1220, Montréal (Québec) H3A 3C6; telephone (514) 288-1394 or fax (514) 288-3536. □

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## New surveys

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### *November 1992: Survey of Persons not in the Labour Force*

This supplement to the November 1992 Labour Force Survey (LFS) was designed to develop more comprehensive data on the 7 million Canadian adults who are neither working nor looking for work. The survey was partly driven by the fact that labour force participation rates have been dropping steadily in recent years. This has generated a need for more information on the people who are not in the job market.

Data were collected on:

- past attachment to the labour force and plans to rejoin it;
- current non-labour market activities (caring for children or relatives, volunteer activities, and so on);
- financial resources of the family;
- educational plans of youths neither working nor attending school; and
- reasons for early retirement.

Results will be released in *The labour force* (Catalogue 71-001), as well as in analytical publications such as *Perspectives*. For more information, contact Jack Beauregard at (613) 951-3328. □

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### *January to March 1993: Survey of Family Expenditures*

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The national Survey of Family Expenditures (FAMEX) provides detailed accounts of spending on goods and services by households across Canada for the 1992 calendar year. It also collects information about changes in the assets and debts of families and individuals.

FAMEX is conducted nationwide periodically, generally every four years. It is also conducted using a smaller sample of 17 metropolitan areas every four years, between the national surveys. Data are collected on a vast array of household expenditures. Over 75 major categories of expenditures on goods and services are covered, including mortgages, rent, clothing, food, transportation costs and education. All are available by family or household size and income.

Statistics Canada needs FAMEX findings to help determine the weight and contents of the "basket" of goods and services used to calculate the Consumer Price Index (CPI). As well, a wide variety of public and private sector professionals find data on spending patterns useful. For instance, 1990 metropolitan FAMEX data show market researchers that, in 1990, average household spending was over \$47,500, up 24% from 1986; similarly, the 35% increase in average expenditures on child care between 1986 and 1990 should interest policy designers.

Results of the 1992 FAMEX survey are scheduled for release in late 1993. For more information, contact Ulysse Nevraumont at (613) 951-4645. □

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## Special project

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### *Self-sufficiency project*

A frequent criticism of social assistance programs is that they discourage recipients



from working. Often these individuals are employable, but the wages they could command would not support them, even if they worked full time. Rather than limit their eligibility for social assistance or reduce their benefits, many recipients choose not to work, which may render their job skills outdated. They can also lose the opportunity to develop new job skills.

One solution often advocated to break the cycle of dependence is an income supplement that encourages recipients to work, yet still assures them a basic income. To test this option, the Innovations Branch of Employment and Immigration Canada (EIC) is funding the Self-Sufficiency Project. EIC's two main objectives are: to design, implement and evaluate the effectiveness of an earnings supplement program as a strategy for increasing the self-sufficiency of social assistance recipients; and, to learn how to implement large-scale evaluations. The project was designed to answer questions such as: What proportion of eligible social assistance recipients take jobs? How well does the system for administering supplements work? What is the net impact of the supplement program? Is it cost-effective?

To conduct the project, EIC has assembled a consortium of organizations. The social assistance agencies in New Brunswick and British Columbia have provided information needed to design the necessary sample, and Statistics Canada will conduct four surveys during the project. Research activities will be designed and implemented by the Manpower Demonstration Research Corporation (MDRC), a U.S.-based non-profit firm with experience conducting large-scale evaluations of welfare and employment policy. A second non-profit organization, the Social Research

and Demonstration Corporation (SRDC), has been established to oversee and manage the consortium's activities.

The self-sufficiency project will offer an income supplement to a random sample of lone parents in New Brunswick and British Columbia. It will be generous enough to encourage participants to break the link with social assistance. About 9,400 lone parents will be needed for the analysis, although this depends on the actual number of individuals in the program group who accept the conditions of the supplement: finding a full-time job (at least 30 hours a week) and leaving social assistance for three years.

The project sample was selected in October 1992 from the population of lone parents over age 18 who had been on social assistance for 12 of the previous 13 months. In November 1992, Statistics Canada gathered demographic data on household members, marital and family history, employment history, income, education, child care requirements, housing, and so on. Using this baseline questionnaire, the names of eligible respondents were transmitted to the MDRC. The MDRC will randomly assign participants to one of two groups: the group offered the supplement (workers), or the control group that will remain with the traditional social assistance program.

During the three years in which they will be involved in the study, participants will answer three follow-up questionnaires administered 18, 36 and 54 months after the initial baseline questionnaire. By comparing those receiving the supplement with those who are not, researchers can assess the benefits and pitfalls associated with such a scheme. The entire study will last eight years.

For further information, contact Richard Veevers at (613) 951-4617. □

# Now you can have the most reliable data available with a couple of keystrokes!

**A**s you read through this latest issue of **Perspectives**, remember that much of the data published in this, and many other Statistics Canada publications, is also available from Statistics Canada's computer-based information retrieval system called CANSIM. In fact, CANSIM has approximately 100,000 time series related to labour and income.

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CANSIM



## Key labour and income facts

The following selection of labour and income indicators is drawn from 12 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest annual figures are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated or revised since the last issue is "flagged" with an asterisk.

### Data sources

The indicators are derived from the following sources:

<b>1-11 &amp; 15</b>	<b>Labour Force Survey</b> Frequency: Monthly Contact: Doug Drew (613) 951-4720
<b>12-14</b>	<b>Labour Market Activity Survey</b> Frequency: Annual Contact: Stephan Roller (613) 951-4625
<b>16</b>	<b>Absence from Work Survey</b> Frequency: Annual Contact: Denis Lefebvre (613) 951-4600
<b>17</b>	<b>Workers' Compensation statistics</b> Frequency: Annual Contact: Joanne Proulx (613) 951-4040
<b>18</b>	<b>Help-wanted Index</b> Frequency: Monthly Contact: André Picard (613) 951-4045
<b>19-20</b>	<b>Unemployment Insurance statistics</b> Frequency: Monthly Contact: André Picard (613) 951-4045
<b>21-28</b>	<b>Survey of Employment, Payrolls and Hours</b> Frequency: Monthly Contact: Cindy Ingalls (613) 951-4090

<b>29-31</b>	<b>Labour Canada, major wage settlements</b> Frequency: Quarterly Contact: Information (819) 997-3117
<b>32-34</b>	<b>Labour income (Revenue Canada, Taxation-based statistics, Survey of Employment, Payrolls and Hours and other surveys)</b> Frequency: Quarterly Contact: Ed Bunko (613) 951-4048
<b>35-45</b>	<b>Survey of Consumer Finances</b> Frequency: Annual Contact: Kevin Bishop (613) 951-2211
<b>46-52</b>	<b>Household Facilities and Equipment Survey</b> Frequency: Annual Contact: Penny Barclay (613) 951-4634
<b>53-54</b>	<b>Small Area and Administrative Data</b> Frequency: Annual Contact: Customer Services (613) 951-9720

Notes on the method of deriving certain indicators are given at the end of the table.

### Additional data

The table provides 2 years of data for most indicators. A longer time series (generally 10 years) for this set of indicators can be obtained, on paper or diskette, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This 10-year data set is updated annually in April. For information, contact Jeannine Usalcas at (613) 951-6889; fax (613) 951-4179.



## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>Labour market</b>							
*1 Labour force	'000	1991	13,757	241	64	422	327
		1992	13,797	236	64	416	331
Change	%		0.3	-2.2	1.1	-1.4	1.2
*2 Participation rate	%	1991	66.3	55.3	65.1	61.3	58.6
		1992	65.5	53.6	65.8	59.9	59.0
*3 Employed	'000	1991	12,340	197	53	371	286
		1992	12,240	188	53	361	289
Change	%		-0.8	-4.4	0.1	-2.6	1.1
*4 Proportion of employed working part time	%	1991	16.4	12.3	16.2	17.0	15.3
		1992	16.8	13.5	16.4	17.5	15.6
*5 Proportion of part-timers wanting full-time work	%	1991	27.7	59.1	39.3	38.6	39.8
		1992	32.5	62.1	43.4	45.5	45.9
*6 Unemployed	'000	1991	1,417	44	11	51	42
		1992	1,556	48	11	55	42
Change	%		9.9	7.2	6.2	7.8	1.9
*7 Official unemployment rate	%	1991	10.3	18.4	16.8	12.0	12.7
		1992	11.3	20.2	17.7	13.1	12.8
<b>Alternative measures of unemployment</b>							
*8 Unemployed 14 or more weeks as a proportion of the labour force	%	1991	4.6	9.3	6.3	5.2	5.2
		1992	5.5	10.2	7.3	6.0	5.4
*9 Unemployment rate:							
– of persons heading families with children under age 16	%	1991	9.1	17.0	16.9	10.5	11.8
		1992	9.7	19.0	17.4	10.9	11.5
– excluding full-time students	%	1991	10.1	18.4	17.3	11.9	12.6
		1992	11.0	20.1	17.9	12.7	12.6
– including full-time members of the Canadian Armed Forces	%	1991	10.2	18.3	16.7	11.7	12.5
		1992	11.2	20.1	17.6	12.8	12.6
– of the full-time labour force	%	1991	12.4	21.6	20.4	15.0	15.5
		1992	13.6	23.6	21.4	16.6	16.0
– of the part-time labour force	%	1991	11.8	16.2	10.2	13.9	13.6
		1992	14.1	21.7	12.0	16.7	15.6
– including persons on the margins of the labour force	%	1991	11.0	22.2	18.4	13.0	14.8
		1992	12.1	24.4	18.7	14.1	14.8
*10 Underutilization rate based on hours lost through unemployment and underemployment	%	1991	13.0	22.3	20.9	15.7	16.4
		1992	14.3	24.3	22.0	17.5	17.1
*11 Proportion unemployed six months or longer	%	1991	23.3	28.2	--	21.1	21.4
		1992	28.1	29.3	--	23.9	22.2

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,392	5,276	541	484	1,357	1,652	..	..	1991	'000	1
3,385	5,286	535	480	1,370	1,693	..	..	1992		
-0.2	0.2	-1.2	-1.0	1.0	2.5	..	..		%	
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991	%	2
62.5	67.3	66.0	66.6	71.9	66.3	..	..	1992		
2,987	4,770	494	449	1,246	1,489	..	..	1991	'000	3
2,953	4,714	484	440	1,240	1,517	..	..	1992		
-1.1	-1.2	-2.0	-1.9	-0.5	1.9	..	..		%	
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991	%	4
15.1	17.3	19.4	18.4	16.4	18.0	..	..	1992		
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991	%	5
38.0	29.1	32.8	35.4	27.8	27.9	..	..	1992		
405	506	48	36	111	163	..	..	1991	'000	6
432	572	51	39	130	176	..	..	1992		
6.6	13.0	7.5	10.1	16.9	7.9	..	..		%	
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991	%	7
12.8	10.8	9.6	8.2	9.5	10.4	..	..	1992		
5.8	4.2	3.9	2.8	3.0	4.1	..	..	1991	%	8
6.8	5.4	4.0	3.4	3.8	4.5	..	..	1992		
10.4	8.3	7.4	6.6	7.5	9.0	..	..	1991	%	9
10.6	9.1	8.1	7.3	8.5	9.1	..	..	1992		
11.9	9.3	8.7	7.2	8.0	9.7	..	..	1991	%	
12.6	10.3	9.2	8.0	9.3	10.3	..	..	1992		
11.9	9.5	8.7	7.3	8.2	9.8	..	..	1991	%	
12.7	10.8	9.5	8.2	9.4	10.4	..	..	1992		
14.5	11.2	11.5	9.9	9.5	12.2	..	..	1991	%	
15.3	12.8	12.4	11.4	11.3	12.8	..	..	1992		
13.1	11.6	11.0	10.5	11.1	10.6	..	..	1991	%	
15.3	14.8	12.9	9.6	13.1	11.9	..	..	1992		
13.3	9.9	9.3	7.9	8.5	10.2	..	..	1991	%	
14.2	11.3	10.2	8.8	9.9	10.7	..	..	1992		
14.9	11.9	12.1	10.7	10.1	12.8	..	..	1991	%	10
15.8	13.6	13.1	12.1	12.1	13.3	..	..	1992		
27.4	22.7	22.3	18.0	17.9	20.9	..	..	1991	%	11
33.1	29.8	23.6	21.0	20.4	22.5	..	..	1992		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Other labour market indicators								
12	Employed at some time in the year, men, aged 16 to 69	'000	1989	7,707	158	37	241	197
	– as proportion of male population aged 16 to 69	%		85.8	81.3	87.0	83.5	82.1
		'000	1990	7,635	154	36	234	197
		%		83.9	79.4	85.8	80.2	81.3
	Employed at some time in the year, women, aged 16 to 69	'000	1989	6,364	124	32	197	164
	– as proportion of female population aged 16 to 69	%		69.2	63.9	74.6	64.4	66.0
		'000	1990	6,354	122	31	195	161
		%		68.4	62.9	72.2	63.2	64.6
13	Unemployed at some time in the year, men, aged 16 to 69	'000	1989	1,399	55	10	57	63
	– as proportion of male population aged 16 to 69	%		15.6	28.1	23.4	19.6	26.2
		'000	1990	1,434	53	10	53	51
		%		15.8	27.3	24.1	18.2	21.3
	Unemployed at some time in the year, women, aged 16 to 69	'000	1989	1,218	45	10	48	50
	– as proportion of female population aged 16 to 69	%		13.3	23.1	22.9	15.6	20.1
		'000	1990	1,157	45	9	45	41
		%		12.5	23.2	19.9	14.7	16.6
14	Full-time, full-year male paid workers	'000	1989	3,897	53	13	120	76
			1990	3,867	57	14	120	90
	Full-time, full-year female paid workers	'000	1989	2,613	33	11	76	52
			1990	2,674	39	12	84	61
*15	Days lost per full-time worker per year through illness or for personal reasons	days	1991	9.4	10.6	8.0	9.7	9.4
			1992	9.2	10.7	7.9	9.0	8.9
16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1990	6.7	4.7	4.4	6.8	6.5
			1991	6.3	5.0	4.8	5.6	6.5
*17	Workers receiving Workers' Compensation for time-loss injuries	'000	1990	594	10	3	13	13
	Change	%	1991	521	9	2	13	12
				-12.4	-9.1	-11.8	-1.1	-6.7
18	Help-wanted Index (1981 = 100)		1990	114	153	133	161	162
			1991	75	100	106	111	116

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
1,949	2,939	294	267	731	894	..	..	1989	'000	12
83.4	81.1	84.7	84.8	87.8	84.9	..	..		%	
1,864	2,927	298	272	745	909	..	..	1990	'000	
78.9	86.4	85.1	87.4	88.1	84.4	..	..		%	
1,548	2,466	251	226	623	733	..	..	1989	'000	
64.1	72.1	70.8	71.3	75.2	68.5	..	..		%	
1,508	2,481	253	221	628	754	..	..	1990	'000	
61.9	71.6	71.3	71.5	74.9	68.8	..	..		%	
438	389	59	43	130	156	..	..	1989	'000	13
18.7	11.7	17.0	13.7	15.7	14.9	..	..		%	
446	453	57	42	108	161	..	..	1990	'000	
18.9	13.4	16.2	13.4	12.7	15.0	..	..		%	
343	371	47	35	95	176	..	..	1989	'000	
14.2	10.8	13.4	11.1	11.5	16.4	..	..		%	
328	372	44	34	91	148	..	..	1990	'000	
13.5	10.7	12.3	11.0	10.9	13.5	..	..		%	
978	1,570	149	123	355	460	..	..	1989	'000	14
939	1,600	135	106	356	449	..	..	1990		
657	1,081	101	82	260	261	..	..	1989	'000	
648	1,128	98	76	245	283	..	..	1990		
10.9	9.0	9.3	8.5	7.9	8.7	..	..	1991	days	15
10.7	9.0	8.4	8.1	7.7	8.6	..	..	1992		
7.5	6.7	6.4	5.8	5.2	6.8	..	..	1990	%	16
7.8	6.0	6.1	5.0	4.9	6.2	..	..	1991		
205	184	21	14	46	84	..	1	1990	'000	17
179	155	18	13	39	79	..	1	1991		
-12.7	-15.7	-15.3	-7.4	-15.6	-5.9	..	-6.7		%	
127	111	97	106	65	116	..	..	1990		18
85	69	66	79	41	80	..	..	1991		

See Notes and definitions at end of table.

## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>Unemployment Insurance</b>							
19	Total beneficiaries	'000	1990 1,121	74	13	56	58
			1991 1,365	80	15	63	65
	Change	%	21.8	8.4	13.1	12.9	11.8
20	Regular beneficiaries without reported earnings	'000	1990 855	59	10	42	47
			1991 1,024	63	11	46	51
	Change	%	19.8	7.3	12.2	11.4	9.9
<b>Earnings (including overtime) and hours</b>							
21	Average weekly earnings in current dollars	\$	1990 508.07	476.91	416.92	456.09	456.51
			1991 531.58	499.24	429.29	476.30	480.62
	Change	%	4.6	4.7	3.0	4.4	5.3
22	Average weekly earnings in 1986 dollars	\$	1990 425.16	419.08	356.04	388.16	391.52
			1991 421.22	413.28	340.98	381.96	386.97
	Change	%	-0.9	-1.4	-4.2	-1.6	-1.2
23	Average weekly earnings of salaried employees in current dollars	\$	1990 632.55	581.18	533.28	566.34	569.64
			1991 665.75	603.37	560.75	605.37	603.32
	Change	%	1.3	3.8	5.2	6.9	5.9
24	Average weekly earnings of salaried employees in 1986 dollars	\$	1990 529.33	510.70	455.41	481.99	488.54
			1991 527.54	499.48	445.39	485.46	485.76
	Change	%	-0.3	-2.2	-2.2	0.7	-0.6
25	Average weekly earnings of hourly paid employees in current dollars	\$	1990 396.64	363.31	275.88	353.69	365.61
			1991 409.98	379.14	284.23	363.17	382.63
	Change	%	3.4	4.4	3.0	2.7	4.7
26	Average weekly earnings of hourly paid employees in 1986 dollars	\$	1990 331.92	319.25	235.59	301.01	313.56
			1991 324.87	313.86	225.76	291.23	303.08
	Change	%	-2.1	-1.7	-4.2	-3.3	-3.3
27	Average weekly hours of hourly paid employees	hrs	1990 31.3	34.7	31.4	32.2	33.6
			1991 30.8	33.8	31.0	31.6	33.3
28	Average weekly overtime hours of hourly paid employees	hrs	1990 1.0	1.2	0.5	0.6	0.8
			1991 0.9	1.2	0.4	0.6	0.7
<b>Major wage settlements</b>							
*29	Number of agreements		1990 504	11	1	7	18
			1991 534	15	4	19	24
*30	Number of employees	'000	1990 1,144	18	1	14	25
			1991 1,331	52	7	29	42
31	Effective wage increase in base rates	%	1990 5.7	7.0	5.8	5.4	6.2
			1991 3.6	2.3	5.5	0.5	2.5

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
368	280	35	27	74	132	2	2	1990	'000	19
427	391	41	30	90	159	2	2	1991		
16.3	39.8	17.4	11.1	20.7	19.9	9.4	21.5		%	
293	202	26	20	56	98	1	1	1990	'000	20
330	286	28	22	67	116	1	2	1991		
12.5	41.9	10.9	7.6	19.8	17.8	8.0	18.9		%	
497.03	529.27	461.98	445.84	504.84	514.65	587.87	665.90	1990	\$	21
518.50	555.83	477.90	465.33	532.04	534.88	634.28	705.85	1991		
4.3	5.0	3.5	3.7	5.4	3.9	7.9	6.0		%	
422.29	433.83	388.54	373.09	428.92	437.63	..	..	1990	\$	22
410.21	435.60	382.32	370.19	427.00	432.05	..	..	1991		
-2.9	0.4	-1.6	-0.8	-0.5	-1.3	..	..		%	
600.37	665.85	588.65	591.68	650.27	628.06	695.12	753.38	1990	\$	23
630.62	701.53	611.79	615.88	688.98	660.39	761.59	790.35	1991		
5.0	5.4	3.9	4.1	6.0	5.2	9.6	4.9		%	
510.08	545.78	495.08	495.13	552.48	534.06	..	..	1990	\$	24
498.91	549.79	489.43	490.04	552.95	533.43	..	..	1991		
-2.2	0.7	-1.1	-1.8	0.1	-0.1	..	..		%	
398.44	408.29	353.76	322.16	366.17	427.28	436.93	547.02	1990	\$	25
413.58	424.56	358.49	327.46	377.07	433.80	467.01	583.65	1991		
3.8	4.0	1.3	1.7	3.0	1.5	6.9	6.7		%	
338.52	334.66	297.53	269.59	311.10	363.33	..	..	1990	\$	26
327.20	332.73	286.79	260.51	302.62	350.40	..	..	1991		
-3.3	-0.6	-3.6	-3.4	-2.7	-3.6	..	..		%	
32.2	31.2	31.2	28.5	30.1	30.5	34.1	33.3	1990	hrs	27
31.8	30.8	30.2	28.0	29.5	29.4	31.3	33.5	1991		
0.9	1.1	0.8	0.8	1.3	1.0	2.3	3.3	1990	hrs	28
0.8	0.9	0.7	0.7	1.3	0.9	1.9	3.4	1991		
103	206	14	8	56	32	..	..	1990		29
104	154	41	5	43	56	..	..	1991		
405	396	14	20	103	31	..	..	1990	'000	30
450	269	75	11	56	72	..	..	1991		
4.8	6.5	5.1	3.9	5.6	7.0	..	..	1990	%	31
3.2	5.8	2.4	4.4	5.3	5.0	..	..	1991		

See Notes and definitions at end of table.



## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
32	Labour income in current dollars	\$ million	1990	368.6	5.0	1.1	9.2	7.2
			1991	379.0	5.2	1.2	9.4	7.5
	Change	%		2.8	3.2	2.5	2.2	4.0
33	Labour income per employee in current dollars	\$	1990	33,600	28,300	24,900	27,800	28,500
			1991	35,200	30,200	26,800	29,100	30,000
	Change	%		5.0	6.6	7.4	4.9	5.3
34	Labour income per employee in 1986 dollars	\$	1990	28,100	24,900	21,300	23,600	24,400
			1991	27,900	25,000	21,300	23,400	24,200
	Change	%		-0.6	0.4	-0.1	-1.1	-1.1
35	Net income from self-employment as a proportion of money income	%	1989	5.8	3.9	9.1	5.9	4.2
			1990	5.2	3.6	7.6	5.4	4.9
Earnings of full-time, full-year workers								
*36	Average earnings of men working full time, full year	\$	1990	36,900	30,000	27,100	33,200	32,500
			1991	38,600	33,400	30,500	35,300	34,700
	Change	%		4.6	11.2	12.8	6.2	6.9
*37	Average earnings of women working full time, full year	\$	1990	24,900	21,900	21,700	24,000	21,400
			1991	26,800	24,500	24,700	23,200	23,000
	Change	%		7.7	11.8	14.0	-3.1	7.4
*38	Ratio of female-to-male earnings	%	1990	67.6	73.0	80.0	72.1	65.8
			1991	69.6	73.4	80.8	65.8	66.1
Family income								
*39	Average family income	\$	1990	51,600	40,800	39,700	44,400	42,400
			1991	53,100	41,700	42,800	45,100	44,300
*40	Median family income	\$	1990	46,100	35,300	34,900	39,900	38,100
			1991	46,700	36,600	38,000	39,400	38,700
*41	Average income of unattached individuals	\$	1990	22,600	19,200	17,700	20,000	18,400
			1991	22,500	18,200	16,500	19,100	19,900
*42	Median income of unattached individuals	\$	1990	17,500	13,500	13,600	16,500	13,900
			1991	17,300	13,100	12,200	14,700	15,100
43	Average family taxes	\$	1989	9,600	6,200	5,900	7,400	6,600
			1990	10,200	6,500	6,000	7,900	7,200
44	Average family income after tax	\$	1989	40,400	33,500	32,800	35,700	34,000
			1990	41,400	34,300	33,700	36,500	35,200

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
86.1	158.0	12.1	9.3	34.8	43.7	0.5	1.1	1990	\$ million	32
88.1	160.5	12.3	9.6	36.9	46.2	0.5	1.2	1991		
2.3	1.6	1.6	3.4	6.1	5.8	5.5	4.9			
31,800	36,200	28,500	27,300	33,000	34,200	..	..	1990	\$	33
33,500	38,000	29,900	28,100	34,700	35,800	..	..	1991		
5.4	5.1	4.8	2.7	5.1	4.6	..	..			
27,000	29,600	24,000	22,900	28,000	29,100	..	..	1990	\$	34
26,500	29,800	23,900	22,300	27,800	29,900	..	..	1991		
-1.9	0.4	-0.3	-2.4	-0.7	-0.7	..	..			
4.4	6.4	5.7	10.8	5.6	5.9	..	..	1989	%	35
4.5	5.4	5.3	8.7	5.9	4.9	..	..	1990		
35,500	39,300	30,900	28,300	36,000	39,700	..	..	1990	\$	36
36,700	41,500	31,900	31,900	39,300	38,700	..	..	1991		
3.3	5.6	3.4	12.8	9.3	-2.5	..	..			
24,400	25,900	22,400	21,300	24,100	26,500	..	..	1990	\$	37
25,700	29,000	23,800	22,100	25,300	27,100	..	..	1991		
5.7	11.7	6.5	3.9	5.1	2.5	..	..			
68.5	66.0	72.5	75.4	67.0	66.8	..	..	1990	%	38
70.1	69.8	74.7	69.4	64.5	70.2	..	..	1991		
47,200	57,000	47,200	44,200	52,000	54,400	..	..	1990	\$	39
48,600	58,600	46,600	45,900	55,600	54,900	..	..	1991		
42,000	50,900	42,900	38,400	47,200	49,200	..	..	1990	\$	40
42,700	52,000	41,300	40,900	48,100	50,600	..	..	1991		
20,300	24,800	20,200	19,800	23,800	23,900	..	..	1990	\$	41
20,700	24,700	20,400	20,000	23,500	22,600	..	..	1991		
14,500	19,800	15,800	15,300	19,200	19,000	..	..	1990	\$	42
15,200	20,000	16,000	14,600	19,100	18,200	..	..	1991		
8,900	11,400	8,600	7,700	9,200	9,300	..	..	1989	\$	43
9,600	11,500	8,500	8,100	9,900	10,900	..	..	1990		
36,000	45,900	38,000	35,300	40,500	40,100	..	..	1989	\$	44
37,500	45,500	38,700	36,100	42,100	43,600	..	..	1990		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
*45	Proportion below the low income cut-offs (1986 base):							
-	families	%	1990	12.1	14.3	10.2	12.0	12.7
			1991	13.1	16.4	9.9	12.9	12.3
-	unattached individuals	%	1990	34.1	38.9	31.9	27.6	34.6
			1991	36.5	41.3	40.5	35.6	35.6
-	persons (population)	%	1990	14.6	15.6	12.5	13.4	14.3
			1991	16.0	17.6	13.2	15.5	14.3
-	children (less than 18 years)	%	1990	16.9	19.6	13.7	16.5	17.1
			1991	18.3	20.3	14.5	20.2	18.1
-	elderly (65 years and over)	%	1990	19.3	16.2	16.2	13.0	13.9
			1991	20.0	16.8	13.7	16.1	14.3
Households and dwellings								
*46	Estimated number of households and dwellings	'000	1991	9,873	177	47	326	251
			1992	10,056	177	46	329	256
47	Average household income	\$	1989	43,800	37,500	34,300	37,700	36,800
			1990	45,300	38,400	35,000	39,800	38,200
*48	Proportion of households with:							
-	VCRs	%	1991	68.6	67.8	59.6	67.8	66.5
			1992	73.8	74.6	69.6	75.4	73.4
-	microwaves	%	1991	73.5	65.0	63.8	72.4	72.5
			1992	76.0	68.9	69.6	76.9	76.2
-	two or more automobiles	%	1991	25.1	13.6	21.3	20.2	20.3
			1992	24.6	11.9	23.9	20.1	19.9
-	vans and trucks	%	1991	22.2	34.5	31.9	25.8	30.3
			1992	26.8	36.2	32.6	28.9	34.0
-	air conditioners	%	1991	26.7	--	--	3.7	6.4
			1992	26.7	--	--	4.9	6.6
*49	Proportion of owner-occupied dwellings	%	1991	63.7	78.5	70.2	71.8	76.5
			1992	63.1	78.5	69.6	71.4	75.4
*50	Proportion of all owner-occupied dwellings that are mortgage free	%	1991	51.3	71.2	60.6	56.8	56.2
			1992	50.6	68.3	53.1	57.0	56.0
*51	Dwellings in need of repair as a proportion of all occupied dwellings	%	1991	24.5	30.5	27.7	31.9	34.7
			1992	26.7	31.1	28.2	34.3	32.4
52	Median rent-to-income ratio	%	1990	20	17	25	23	19
			1991	21	16	23	21	20

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										45
14.5	9.8	14.4	14.0	12.9	11.9	..	..	1990	%	
15.9	11.2	17.1	13.4	13.1	11.1	..	..	1991	%	
44.0	28.5	35.7	29.3	32.6	31.0	..	..	1990	%	
44.2	31.8	38.2	34.5	33.4	35.7	..	..	1991	%	
18.0	11.7	17.8	16.6	15.4	14.6	..	..	1990	%	
19.2	13.5	21.1	17.1	15.9	15.1	..	..	1991	%	
18.1	14.7	22.0	20.4	18.3	16.9	..	..	1990	%	
19.7	17.0	26.9	21.0	18.7	14.5	..	..	1991	%	
28.8	15.8	19.8	10.0	19.2	18.0	..	..	1990	%	
26.1	18.0	21.4	11.0	18.7	20.7	..	..	1991	%	
2,618	3,585	389	359	898	1,225	..	..	1991	'000	46
2,656	3,647	396	359	912	1,278	..	..	1992		
39,200	50,600	40,000	37,100	43,800	41,800	..	..	1989	\$	47
40,500	50,600	40,500	38,200	46,200	47,100	..	..	1990		
										48
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
69.1	76.8	71.2	69.4	78.4	73.3	..	..	1992	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
72.9	77.7	75.5	81.3	81.0	73.6	..	..	1992	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
20.9	27.9	22.2	21.7	28.4	25.0	..	..	1992	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
17.4	23.3	31.1	44.6	43.4	35.1	..	..	1992	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
14.0	48.6	49.0	34.3	10.0	7.5	..	..	1992	%	
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	49
55.0	63.9	67.4	71.6	65.5	65.7	..	..	1992	%	
47.5	50.2	55.3	63.1	48.8	52.0	..	..	1991	%	50
47.3	48.0	56.2	60.3	47.9	54.5	..	..	1992	%	
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	51
25.1	25.4	32.1	30.6	28.7	24.8	..	..	1992	%	
19	20	20	21	20	23	..	..	1990	%	52
20	22	21	22	21	24	..	..	1991	%	

See Notes and definitions at end of table.

## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>53 Labour force income profile</b>							
Number of taxfilers	'000	1990	18,450	372	86	606	496
Income:							
Number reporting	'000	1990	18,407	371	86	604	495
Amount	\$ million	1990	454,628	6,897	1,662	12,939	9,904
Median	\$	1990	19,100	13,800	15,400	16,500	15,300
Canadian index	%	1990	100.0	72.3	80.6	86.4	80.1
Labour force income:							
Number reporting	'000	1990	14,255	292	68	455	372
Amount	\$ million	1990	348,535	5,577	1,267	9,830	7,590
Employment income:							
Number reporting	'000	1990	14,028	279	67	445	363
Amount	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Median	\$	1990	19,300	10,700	11,800	16,300	14,300
Canadian index	%	1990	100.0	55.4	61.1	84.5	74.1
Self-employment income:							
Number reporting	'000	1990	1,874	31	12	52	35
Amount	\$ million	1990	20,724	238	104	660	344
Unemployment Insurance benefits:							
Number reporting	'000	1990	3,044	144	28	134	131
Amount	\$ million	1990	12,215	809	145	594	646
Canadian index	%	1990	100.0	467.2	355.4	177.1	256.5
<b>54 Economic dependency profile</b>							
Transfer payments:							
Amount	\$ million	1990	68,543	1,758	397	2,572	2,176
Employment income	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Economic dependency ratio (EDR)	%	1990	20.38	36.87	35.41	27.85	31.34
Canadian index	%	1990	100.0	180.9	173.7	136.7	153.8
Unemployment Insurance benefits:							
Amount	\$ million	1990	12,215	809	145	594	646
Contribution to EDR	%	1990	3.63	16.96	12.90	6.43	9.31
Family Allowance benefits:							
Amount	\$ million	1990	2,577	63	14	87	74
Contribution to EDR	%	1990	0.77	1.32	1.22	0.94	1.06
Federal sales tax credits:							
Amount	\$ million	1990	1,708	47	9	64	56
Contribution to EDR	%	1990	0.51	0.98	0.85	0.69	0.81
Child Tax Credit benefits:							
Amount	\$ million	1990	2,128	65	14	80	72
Contribution to EDR	%	1990	0.63	1.37	1.26	0.86	1.04
Old Age Security benefits:							
Amount	\$ million	1990	9,921	166	50	343	269
Contribution to EDR	%	1990	2.95	3.47	4.48	3.72	3.88
CPP/QPP benefits:							
Amount	\$ million	1990	12,008	176	49	435	306
Contribution to EDR	%	1990	3.57	3.70	4.41	4.71	4.41
Other pension benefits:							
Amount	\$ million	1990	16,164	203	60	590	386
Contribution to EDR	%	1990	4.81	4.25	5.34	6.39	5.55

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										53
4,693	6,888	757	642	1,660	2,202	18	30	1990	'000	
4,681	6,873	756	640	1,656	2,198	18	30	1990	'000	
104,854	187,842	16,321	13,574	42,208	57,057	479	889	1990	\$ million	
17,400	21,400	16,800	16,300	19,500	20,000	22,800	21,600	1990	\$	
91.1	112.0	88.0	85.3	102.1	104.7	119.4	113.1	1990	%	
3,517	5,409	559	490	1,364	1,686	16	27	1990	'000	
81,426	144,240	11,878	9,602	33,255	42,637	426	807	1990	\$ million	
3,444	5,350	549	484	1,347	1,658	15	27	1990	'000	
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
18,500	21,500	16,800	14,600	19,100	20,000	22,200	23,400	1990	\$	
95.9	111.4	87.0	75.6	99.0	103.6	115.0	121.2	1990	%	
340	675	101	137	239	248	2	2	1990	'000	
4,258	8,585	824	985	1,830	2,864	17	15	1990	\$ million	
942	889	103	82	221	360	4	5	1990	'000	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
141.0	60.9	86.8	84.6	69.1	95.6	146.6	80.2	1990	%	
										54
17,488	25,075	2,979	2,401	5,003	8,576	46	71	1990	\$ million	
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
22.58	17.77	25.87	25.77	15.42	20.81	11.32	9.10	1990	%	
110.8	87.2	126.9	126.4	75.7	102.1	55.5	44.7	1990	%	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
5.12	2.21	3.15	3.07	2.51	3.47	5.32	2.91	1990	%	
633	913	111	110	267	295	3	8	1990	\$ million	
0.82	0.65	0.97	1.18	0.82	0.72	0.71	0.99	1990	%	
467	552	85	76	155	193	1	3	1990	\$ million	
0.60	0.39	0.74	0.81	0.48	0.47	0.35	0.37	1990	%	
555	647	111	116	226	232	2	8	1990	\$ million	
0.72	0.46	0.96	1.25	0.70	0.56	0.55	0.98	1990	%	
2,411	3,711	506	445	707	1,306	3	4	1990	\$ million	
3.11	2.63	4.40	4.78	2.18	3.17	0.72	0.54	1990	%	
2,835	4,824	523	454	849	1,549	4	4	1990	\$ million	
3.66	3.42	4.54	4.87	2.62	3.76	1.08	0.48	1990	%	
3,274	6,877	645	529	1,205	2,383	7	5	1990	\$ million	
4.23	4.87	5.60	5.68	3.72	5.78	1.63	0.67	1990	%	

See Notes and definitions at end of table.



## Key labour and income facts

### Notes and definitions

No.

- 1 Persons aged 15 and over who are employed or unemployed.
- 2 Labour force as a proportion of the population aged 15 and over.
- 4 Persons who usually work less than 30 hours per week.
- 7 Unemployed as a proportion of the labour force.
- 8 This rate, and rates shown as Indicators 9 and 10, are described in *Perspectives on labour and income* (Quarterly, Catalogue 75-001E), Winter 1992, pp. 35-43.
- 9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.  
  
The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.  
  
On the margins of the labour force includes persons not looking for work because they believe none is available or because they are waiting for recall or for replies from employers.
- 10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.

No.

- 29 Data are for agreements involving bargaining units of 500 or more employees. Canada figures include workers covered by federal labour legislation plus agreements involving workers in more than one province.
- 32 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, Workers' Compensation and Unemployment Insurance).
- 33 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent the entire reference week without pay.
- 45 For an explanation of the methodology underlying the low income cut-offs, see *Income distributions by size in Canada* (Annual, Catalogue 13-207).
- 53-54 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.

## *In the works*

*Here are some of the topics to be featured in upcoming issues of Perspectives on labour and income.*

---

### ■ Trends in self-employment

Using census data, this article examines the characteristics of self-employed workers in selected industries from 1971 to 1991.

---

### ■ School, work and dropping out

Are high-school students who hold part-time jobs more likely to drop out?

---

### ■ Seven decades of wage changes

This paper looks at the evolution of the average wages of men and women between 1920 and 1990.

---

### ■ The C/QPP and private pensions

Increasing contributions, required to maintain the solvency of the Canada and Quebec Pension Plans (C/QPP), have resulted in changes to employer-sponsored pension plans (RPPs) in recent years. These changes and the possible future impacts of growing C/QPP costs on RPPs and RRSPs are examined.

---

### ■ Investment income of Canadians

This study identifies the main characteristics of taxfilers reporting interest and dividend income.

---

### ■ The tourism industry – a labour market profile

An article on the difficulties in defining this industry and recent developments in employment and earnings.

---

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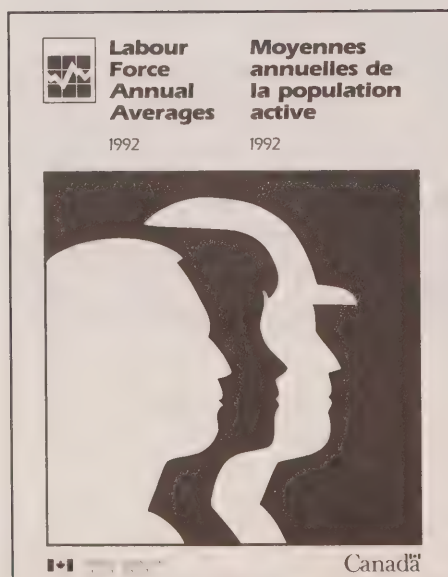
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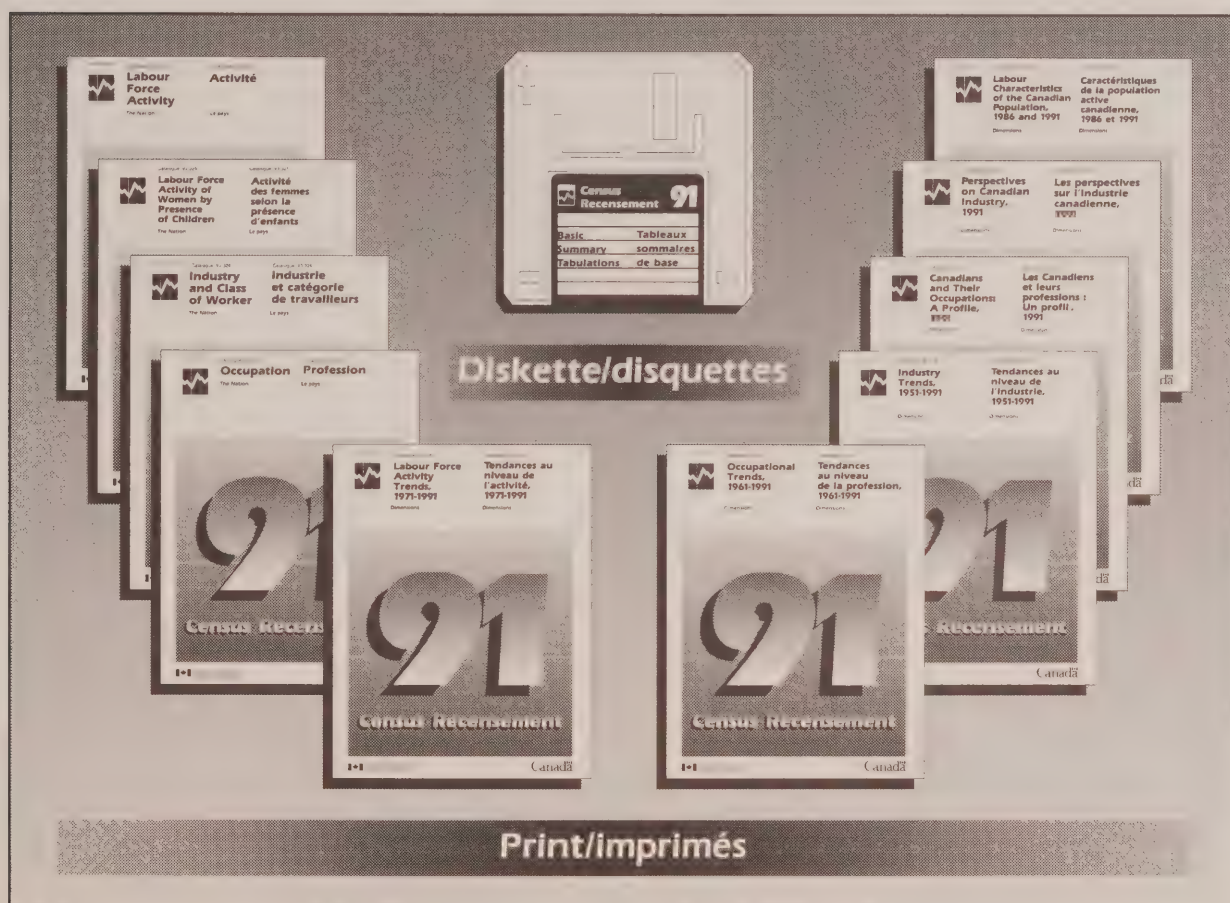
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### Symbols

The following standard symbols are used in Statistics Canada publications:

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## Forum

### From the editor

■ This year, Statistics Canada is celebrating "75 years of excellence," and we at *Perspectives* are proud to be part of the tradition. Since *Perspectives* is a relative newcomer, the anniversary prompts us to think to the future (as any good anniversary should). Upon reflection, though, it becomes apparent that the future we hope to chart is embedded in the past.

Data analysis has long been a tradition at Statistics Canada, but in the last 10 years it has sprung up with more vigour than ever before. *Perspectives* is part of the increase in the flow of analytical output: *Canadian Economic Observer*, *Canadian Social Trends*, *Current Demographic Analysis*, *Health Reports* and *Juristat* number among the others. These modern analytical journals are direct descendants of earlier work done at the Agency. For instance, while researching "The renaissance of self-employment," we looked at the 1931 Census report, which contains such lucidly written analysis that it's a pleasure to read. *Perspectives* thus carries on an old program and an old practice.

Analysis is also the wave of the future. The volume of information to which we are all exposed every day is almost incalculable. We like to think of *Perspectives* as contributing to the "information democracy"

– since above all else, *Perspectives'* mission is to digest vast quantities of data from a variety of sources, distil what we believe to be most relevant, and synthesize the results. By presenting those findings in clear, concise language, we hope to make complex statistical information available to individuals with little or no statistical background.

Dian Cohen argues in this issue's interview that "collecting, analyzing, evaluating, manipulating and distributing information is a wealth-creation process"; in other words, transforming basic information into analytical form is a value-additive function. Yet, while added value is important these days, so is dollar value. As "Seven decades of wage changes" shows, growth in real wages has stagnated in recent years, and this pressures people to seek the best buy for their money. We hope that *Perspectives* is a good buy for readers wanting to monitor and manage their information flow.

This information flow is increasingly international in scope. "Global economy" is a hackneyed phrase but a real phenomenon. When possible, *Perspectives* tries to present international comparisons with Canadian data. For example, a brief note looks at "International employment trends by industry" in a selection of major industrialized countries.



Of course, information in the statistics business is a two-way street. It cannot be given to users unless it has first been provided by respondents. We extend thanks to our readers, especially those who have answered our questionnaires, and to their organizations, many of which have participated in Statistics Canada's establishment surveys.

Ian Macredie  
Editor-in-Chief



**We welcome your views** on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-D Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6. Telephone (613) 951-0178; fax (613) 951-4179.

# Highlights

*Here are some key findings from the articles in this issue of Perspectives on labour and income.*

## Seven decades of wage changes

■ Between 1920 and 1990, the average annual wage in current dollars increased twenty-five-fold. With prices increasing seven-fold, wage-earners more than tripled their purchasing power over the 70 years.

■ The distribution of wage-earners by sex changed substantially over the period studied. Beginning at 21% in 1920, the proportion of female wage-earners increased over the years, nearly reaching parity with men by 1990.

■ The decade of the twenties ended with the Great Depression. Although the average annual wage dropped between 1920 and 1930, a more rapid decline in prices increased real wages by 12%. However, high unemployment actually reduced the proportion of individuals and families who could benefit from the dollar's higher purchasing power.

■ In the fifties, stable prices and a strong economy gave wage-earners their largest gains this century in purchasing power (43% rise in the real average annual wage over the decade).

■ The eighties began and ended with recessions, experienced the highest unemployment rates since the depression of the

1930s and the largest increase in the Consumer Price Index since 1920. The increase in the real average annual wage between 1980 and 1990 amounted to only 2.0%.

## The renaissance of self-employment

■ Between 1971 and 1991, the number of self-employed workers in non-primary industries jumped over 105%, increasing self-employment's share of this workforce from 7.0% to 8.4%. Over the same period, the number of paid workers rose 70% in these industries.

■ The non-primary industries that recorded above-average rates of self-employment were almost exclusively in the service-producing sector. Those with the highest rates of self-employment were: construction, some industries in community, business and personal services, trade, insurance agencies and real estate, and transportation.

■ In general, self-employed workers were more likely than paid workers to be 45 years or over – 50% in 1971 and almost 41% in 1991, compared with 30% and 25% for paid workers.

■ In 1990, the average total income of self-employed workers with incorporated firms in non-primary industries was about 34% higher than that of paid workers, while the income of the self-employed with unincorporated businesses was 14% greater.

■ The number of self-employed women in non-primary industries grew almost 265% over 20 years, rocketing from just under 89,000 in 1971 to over 323,000 in 1991. This increase in women entrepreneurs resulted in a two percentage point rise in the self-employment rate for women over the period, from 3.3% of the female workforce to 5.4%; nevertheless, self-employment rates for women still remained about half those for men.

#### **International employment trends by industry – a note**

---

■ Over the last three decades, employment in the industrialized countries studied increased, but at different rates. This growth was accompanied by shifts in employment shares by industry – away from agriculture and manufacturing, and into services.

■ Over the period 1960-90, changes in employment levels by industry have resulted in a more uniform distribution of employment by industry grouping across these countries.

#### **Dian Cohen on the new economy**

---

■ "We all grew up in an economy where we created wealth by finding, processing and distributing physical things. Value was added at every stage of production. The information economy does that with information. Collecting, analyzing, evaluating, manipulating, and distributing information is a wealth-creation process. Even in the manufacture of tangible goods, more and more of the value added is on the information side."

■ "To add value to information, people need to know how to process information:

how to find it, analyze it, and manipulate it. We need an education system that teaches people how to think creatively. Our society has the concept of lifelong learning, but the institutional setting, the ability to actually do it easily, doesn't yet exist."

■ "... we are creating a society where it is much easier to be in business for oneself, because as the big structures become global they shed a lot of tasks they cannot do as efficiently as others. They then have a need for smaller companies to provide them with the services they are no longer performing themselves."

#### **School, work and dropping out**

---

■ Of the 895,000 persons aged 18 to 20 who were no longer attending high school in the spring of 1991, 79% had graduated with a certificate or diploma, while 21% were non-completers. Non-completion was considerably more common among men than women (24% compared with 16%).

■ Youths with moderate work involvement (1 to 19 hours per week) while at school had lower drop-out rates than those with no job at all. This tendency was particularly pronounced for women.

■ Intensive work involvement during the school year appeared to substantially increase the risk of dropping out among young men. The relative probability of dropping out was 60% higher for men with jobs that demanded long hours (at least 20 hours per week) than among those who were not employed.

■ Among women, working long hours was generally associated with a lower or equal risk of dropping out than not working at all.



## Investment income of Canadians

---

■ In 1990, more than 9.5 million Canadian taxfilers reported interest, dividends or both. The total amount they obtained from these sources surpassed \$39 billion and accounted for 13% of their total income. Interest comprised the majority (83%) of this investment income.

■ As total income increases, taxfilers are more likely to receive dividend income; thus, dividends are largely reported by high-income recipients. In 1990, taxfilers with total incomes of \$100,000 or more reported 44% of all dividend income.

■ In 1990, Canadians 75 years and over had the highest median investment income (\$4,450) of all age groups. This income was almost five times that of 45 to 54 year-olds (\$900) and nearly fifteen times more than the median for individuals under 25 (\$300).

■ Taxfilers 75 years and over who reported investment income had a median total income of \$15,700, 43% of which, on average, was generated by investments. This investment income, in turn, consisted mostly of interest (90%).

■ Another pattern emerged for those with a total income of \$100,000 or more and reporting investment income. This source of income accounted for only 20% of their total income and a large part was received in the form of dividends (40%).

## A note on tracking employment in manufacturing

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■ The combined hiring plans of Canadian manufacturers, as reflected in the results of the quarterly Business Conditions Survey, may be considered an early indicator of

employment prospects in this industry. The information about businesses' plans for staffing can be used to forecast trends subsequently tracked by other employment surveys.

## What's new?

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■ The publication *Labour force annual averages*, 1992 presents the 1992 annual averages for all tables released in the monthly publication *The labour force*. The special feature article in this year's edition assesses the state of employment in the goods-producing sector from 1976 to 1992.

■ The Help-wanted Index (HWI) has just been rebased to 1991, and the revised data series is now available in the *Help-wanted Index 1981-1992*. The publication contains a brief analytical review of the HWI's performance over the past 12 years and provides charts and tables for Canada, the regions and selected metropolitan areas.

■ The quarterly Business Conditions Survey can be used as an indicator of the shortage of skilled and unskilled labour. Summary results of the survey are published in *The daily*.

■ The publication *Employment, earnings and hours* will feature, over the course of the year, three articles that highlight cyclical trends in employment and earnings: "Patterns of growth in employment, payrolls and hours 1983-1992", "Use of SEPH data for contract escalation", and "Recent trends in payrolls in commercial and non-commercial industries."

■ The Survey of 1986 Graduates is completed, and public use microdata tapes are available. The survey captured not only the basic measures of graduates' labour force

activity over a five-year period, but also information dealing with the link between education, labour-market experience and further education and training.

■ *Basic facts on families in Canada: past and present*, which covers the impact of women's employment on the family, the division of unpaid household labour, and the economic well-being of families, is now available.

■ The 1991 Census reveals ongoing changes in the size, structure and composition of Canada's families and households. Two publications documenting this evolution will be available in the third quarter of 1993: *Families: social and economic characteristics* and *Household and family trends, 1971-1991*.

■ Results of the 1992 General Social Survey on Time Use are available. Using a diary system, the respondents chronicled their activities for a 24-hour period, including the time of day each activity occurred, its duration and location, and other persons present at the time.

■ The report *Population ageing and the elderly* explores demographic trends contributing to the ageing process – fertility, mortality and immigration – and also discusses the housing and living conditions of senior citizens, their financial situation, and health.

■ The Seniors' Secretariat has released *Survey on ageing and independence: an overview*. The report analyzes the situation of older Canadians with reference to those characteristics believed to be associated strongly with independence in later life.

■ In March 1993, the annual Survey of Job Opportunities was again conducted. The survey's objective was to estimate the number of jobless Canadians who say they want a job but are not seeking one, the kind of work they want, and the reasons they have stopped looking.

■ In April, the Survey of Private Training Schools was mailed to about 5,000 provincially registered and non-registered schools. This new survey is designed to assess the growth and scope of private business, trade and vocational schools. Results will be available in late fall. □

# Seven decades of wage changes

Abdul Rashid

**B**etween 1920 and 1990, the current annual average wage of individuals increased twenty-five-fold, while prices rose seven-fold. Thus, on the average, wage-earners increased their purchasing power by more than three and a half times over these 70 years. These gains were not obtained at a uniform rate over the entire period, however. During the first two decades, the changes in real wages were quite small, while the next 30 years saw large gains. The rate of growth in real wages began to decline in the 1970s, the smallest increase since 1920 occurring between 1980 and 1990.

The economic welfare of families and households in a community depends largely on the number and quality of paying jobs. Around 70% of the national income is accounted for by labour income. Wages, therefore, are the linchpin of Canadians' economic welfare, and there is an understandable interest in both the level of wages at various times and changes over time.

Based on the information collected in the censuses of Canada taken between 1921 and 1991, this article presents selected statistics on the changes in the average wages of men and women between 1920 and 1990. (See *Data sources and concepts*.) To place these wage trends in perspective, the importance of overall economic activity and

the characteristics of wage-earners are discussed before changes in actual and real wages.

The statistics in this article relate to annual wages irrespective of the nature of work activity: whether it was full-year, full-time, or part-year or part-time. For a proper comparison of male-female differences in wages, work activity and other related factors such as age, work experience and occupation must be taken into account. A detailed study of this aspect of wages was beyond the scope of this paper, as was an examination of the inequality of distribution of wages, or of differences in wages by other factors such as age or education or work activity.

## An economy is a living organism

Wage changes are closely related to overall economic activity as well as to changes in the various constituent parts of the economy. While it is not possible to deal in any detail with the factors influencing the movement of wages over time, the importance of their impact on wages needs to be recognized before the individual wage data from the Canadian censuses are examined.

## Wages move with overall economic activity

An economy, like any living organism, is continuously changing from day to day and year to year. And wages tend to move with

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overall economic activity. An important measure of overall economic activity is the gross domestic product (GDP) which is the total value of goods and services produced. Periods of economic growth are generally accompanied by growth in wages, while wages tend to stagnate or fall during periods of recession.

An examination of annual changes in per capita GDP and per capita wages in constant (1990) dollars between 1926 and 1990 shows an obvious link between wages and overall economic activity (Chart A). Although the long-term trend is clearly for growth in the GDP (and therefore in wages), it is subject to both minor and major fluctuations. In fact, in 13 of the 65 years, per capita GDP fell from the preceding year. The phenomenon of continuous change is highlighted when the percentage variations from year to year are examined. No two years show identical rates of change. These year-to-year fluctuations lie within certain movements of longer duration. Conspicuous in this respect are the trough resulting from the Great Depression and the peak generated by the Second World War.

These data also show that wage changes generally lag behind changes in overall economic activity. Moreover, the period required for the recovery of wages is generally longer than the actual duration of a depression or recession.

Another measure of economic activity is the overall level of employment. High rates of unemployment tend to exert downward pressure on wages, while a robust economy with high levels of employment maintains or augments the level of wages (Chart A).

The analysis of changes in individual wages at 10-year intervals is likely to smooth over many of the year-to-year variations taking place between censuses or within each decade. Census wage data relate to one year in a decade.<sup>1</sup> If a reference year contained an extraordinary economic event

(the trough of a severe recession, for example), the changes between that year and the preceding and succeeding reference years will be exaggerated.

### **Growth in wages and productivity converge**

In the long run, growth in real wages can only be sustained if it is accompanied by growth in productivity. (Statistics Canada, 1992b). The level of productivity in Canada is probably as high as in most industrial nations but the rate of growth in productivity has not been uniform. The 1920s and 1930s were decades of zero growth. The war and the post-war period extending to the early 1970s saw rapid increases in labour productivity. The ratio of capital to labour in the primary industries increased rapidly with tremendous increases in productivity, while technological changes in other sectors led to more efficient use of resources and increased productivity. And the rising levels of education produced a higher quality workforce with higher productivity.

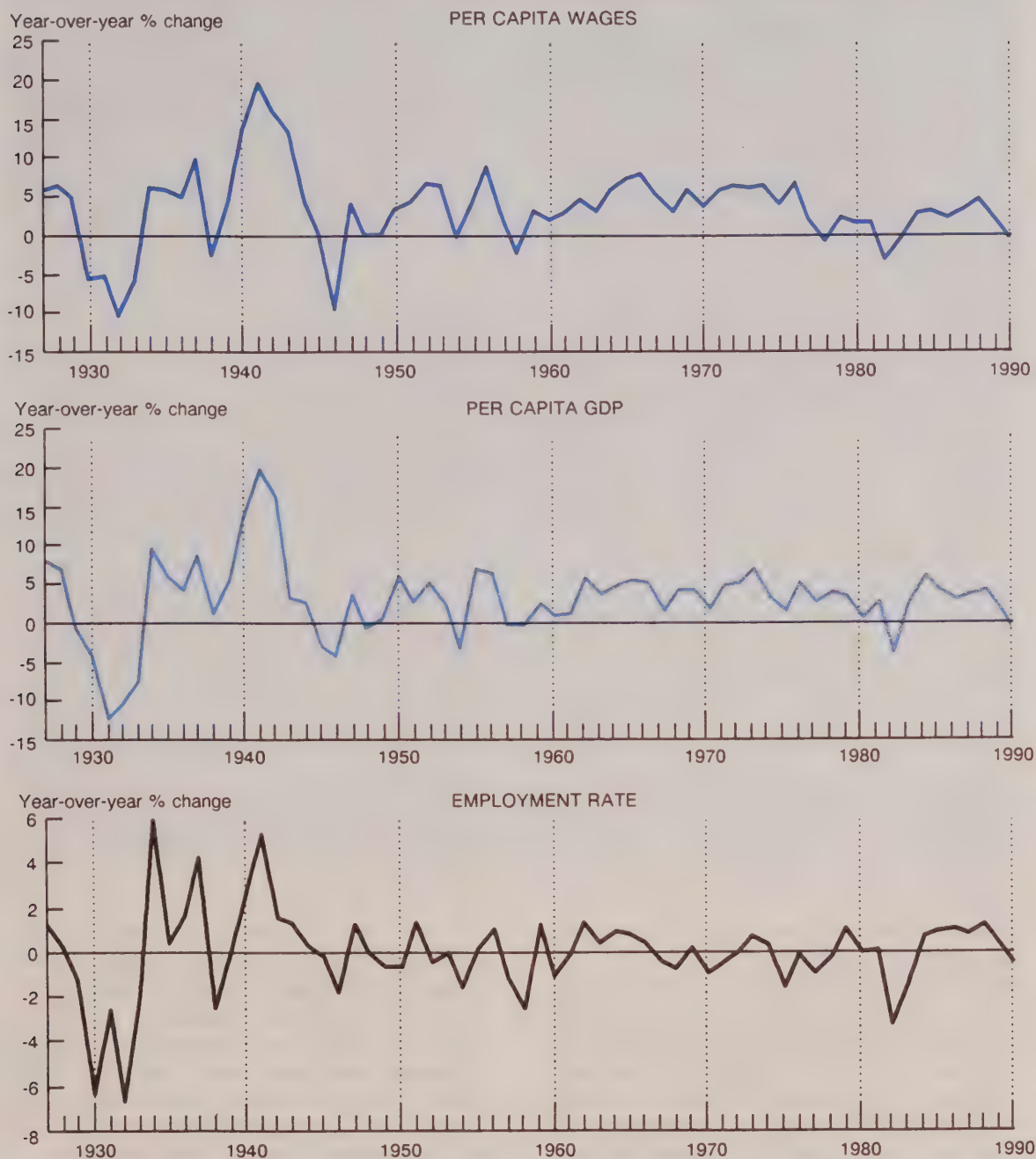
These factors changed in the 1970s. The shift of labour from the primary sector, especially from agricultural industries, levelled off. Although the educational level of the workforce continued to rise, there was a large influx of inexperienced labour due to the entry of the baby boom cohorts and married women. From a high of 3.3% during the 1961 to 1975 period, the average annual labour productivity gains dropped to 1.5% during the 1975 to 1982 business cycle and to 1.4% during the 1982 to 1991 cycle (Galarneau and Dumas, 1993). The declining rate of growth in labour productivity in recent years has had a depressing effect on real wages.

### **Wages change as characteristics of wage-earners change**

An individual's wage is generally related to certain characteristics such as age, education and occupation. Given the wage rate, the annual earnings of an individual will

Chart A

Fluctuations in real wages reflect changes in GDP and employment.



Source: National Accounts and Environment Division

Note: Employment rate = employment / labour force



## Data sources and concepts

For detailed definitions of concepts, methods and coverage, see the sources listed under *References*.

**Historical comparability** – For an analysis of changes over time, it is important that the concepts, methods and coverage underlying the statistics be identical. In practice, this is not possible for a series extending over a long period. Statistics Canada is always conscious of the need for historically comparable data, but the many social, legal and technological changes that occur over time cannot be ignored. Therefore, the statistics presented in this article are based on concepts and coverage that have undergone change from time to time. However, it is assumed that such change does not significantly reduce the accuracy of the general trend in annual wages over a 70-year period.

**Wages** – All statistics on individual wages and those relating to wage-earners in this article are based on data from the various censuses of Canada. The following points should be noted:

- Prior to the 1971 Census, wage data covered the 12 months preceding the census. Since 1971, wages are for the calendar year preceding the census. For convenience, however, reference years have been labelled 1920, 1930, and so on.

- Except for 1950, the averages represent the arithmetic means. For 1950, only median values are available. However, unlike the data for recent years, the 1940 and 1960 data show insignificant differences between median and mean wages.

- Averages are calculated for those who reported wages.

- The 1921, 1931 and 1941 Censuses cover the "gainfully employed"; 1951, 1961 and 1971 cover "currently in labour force." The 1981 and later censuses cover "paid workers."

depend on the number of weeks worked in the year and on whether this work was full- or part-time. Modifications in the characteristics of paid workers over time result in wage changes. If the relative proportion of wage-earners in a high-wage category increases or decreases, the overall average wage would also increase or decrease even if there were no changes in individual wages.

- Data from censuses before 1951 exclude Newfoundland, Yukon and Northwest Territories.

- The 1931 Census data are for individuals 16 years and over; the 1941 and 1951, for 14 years and over, while the rest cover individuals 15 years and over. The 1941 Census excluded persons on active military service. The 1991 Census included, for the first time, both permanent and non-permanent residents. Non-permanent residents are persons who hold student or employment authorizations, Minister's permits or who are refugee claimants.

**Current and constant dollars** – The purchasing power of a dollar decreases or increases when prices rise or fall. To account for price changes over time, current or nominal wages are converted into constant dollar or real wages by adjusting for changes in the prices of goods and services. In this article, real wages are expressed in terms of constant (1990) dollars by adjusting them for changes in the Consumer Price Index (1981=100) between 1920 and 1990. Since the 1921 to 1961 censuses collected wage data for the 12 months preceding the census, adjustments to current wages from these censuses were made on the basis of changes in the Consumer Price Index in the last seven months of the preceding year and five months of the census year. For real changes in gross domestic product and related statistics, the Implicit Price Index (1986=100) was used.

**Labour force** – All statistics relating to labour force, employment and unemployment are taken from the National Income and Expenditure Accounts, annual estimates, going back to 1926. For detailed definitions, users should consult Statistics Canada (1992a, 1992c and 1988c).

**Occupation, industry and education** – Statistics on distributions by occupation, industry and education are from various censuses of Canada (see *References*).

**National income** – All statistics relating to gross domestic product and per capita wages are taken from Statistics Canada (1992a and 1988c).

During the 70 years reviewed, not only did the number of wage-earners increase substantially, but their distribution by sex also changed. Beginning at 21% in 1920, the proportion of female wage-earners increased over the years, reaching near parity with men in 1990. These changes in composition and quantity were accompanied by qualitative changes brought about by



rising levels of education. There have also been important shifts in the occupational and industrial structures. Between 1951 and 1991, a quarter of the labour force moved away from primary, manufacturing and transportation to other industries.

### Changes in average annual wage

In 1920, the average annual wage in current dollars was estimated at \$960.<sup>2</sup> The Great Depression, which began in 1929, reduced the average by 11%, to \$850 in 1930, and it remained at about this level until 1940. Demands of a war economy and post-war economic expansion, coupled with inflation, saw current wages experience sharp increases in every decade. Thus, between 1940 and 1950, the average annual wage more than doubled to \$1,900. It tripled in the next two decades to \$5,700 in 1970 and more than quadrupled in the next two to about \$24,300

in 1990. Both men and women experienced such increases in their average annual wages during this period (Table 1).

The twenty-five-fold increase in the current or nominal average annual wage between 1920 and 1990 did not result in an equal increase in the purchasing power of wage-earners since the prices of goods and services also rose nearly seven-fold. Consequently, the real average annual wage increased 3.6 times during the period under review.

Although current or nominal wages are of interest, changes in real or constant dollar wages provide a more important indication of the financial position of wage-earners in the long run. Accordingly, all wage statistics in the following analysis, unless otherwise stated, have been adjusted for price changes and are presented in 1990 dollars.

Table 1  
Average annual wage by sex, 1920-1990

	Current dollars			Constant (1990) dollars		
	Both sexes	Men	Women	Both sexes	Men	Women
Average wage (\$)						
1920	959	1,062	577	6,773	7,500	4,075
1930	854	931	564	7,590	8,274	5,013
1940	868	993	490	8,370	9,579	4,726
1950	1,863	2,127	1,221	11,249	12,843	7,373
1960	3,192	3,679	1,995	16,031	18,477	10,019
1970	5,683	6,789	3,543	21,928	26,196	13,671
1980	13,369	16,786	8,828	23,791	29,871	15,710
1990	24,259	29,757	17,933	24,259	29,757	17,933
% change						
1920-30	-10.9	-12.3	-2.3	12.1	10.3	23.0
1930-40	1.6	6.7	-13.1	10.3	15.8	-5.7
1940-50	114.7	114.2	149.2	34.4	34.1	56.0
1950-60	71.3	73.0	63.4	42.5	43.9	35.9
1960-70	78.0	84.5	77.6	36.8	41.8	36.4
1970-80	135.2	147.3	149.2	8.5	14.0	14.9
1980-90	81.5	77.3	103.1	2.0	-0.4	14.2

Source: Census of Canada

### On the eve of the Great Depression (1920-1930)

In 1920, the average annual wage was \$6,800. Nearly four-fifths of all wage-earners were men with an average wage of \$7,500. The wages of women averaged \$4,100 (Chart B).

National Accounts data show that overall economic activity began to slide in 1929, with the advent of the Great Depression (Chart A). Unemployment began to rise sharply. By the end of the decade, the average number of weeks worked by male wage-earners had dropped by 12% and those worked by female wage-earners, by 3%. The effect of this reduced work was reflected in a proportionate reduction in current or nominal wages in 1930 compared with 1920.

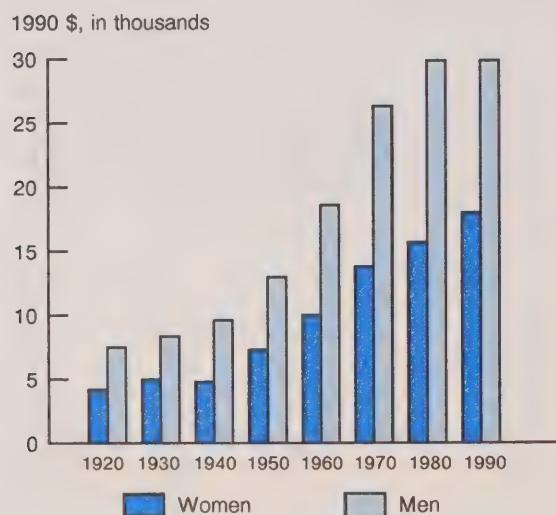
During this decade, the prices of goods and services fell faster than wages. Consequently, real wages increased. Men gained about 10% and women 23%, with their

respective average annual wages increasing to \$8,300 and \$5,000 in 1930. The overall real average annual wage increased by 12% to \$7,600.

This increase in real wages resulted from the higher purchasing power of the dollar in 1930 compared with 1920. It should not, however, be interpreted as an increase in the overall purchasing power of Canadians. From a peak of 57% in 1928, the ratio of employed persons to the total civilian, non-institutional population 14 years and over began to slip and had fallen to 53% in 1930. (Statistics Canada, 1992a and 1988c). Although the overall average annual wage increased by 12% between 1920 and 1930 in real terms, the higher rate of unemployment actually reduced the proportion of individuals and families who could benefit from the dollar's higher purchasing power.

Chart B

**Real wages quadrupled between 1920 and 1990 for both women and men.**



Source: Census of Canada

### Wages recover slowly (1930-1940)

The economic losses in terms of employment and income were catastrophic during the Great Depression. Between 1929 and 1933, the GDP dropped by 42% in current dollars and 27% in constant dollars. Although the depression bottomed out in 1934, it took a world war for the economy to return to its pre-depression level.

The overall productive activity began to improve in 1934 but remained erratic. In fact, the recovery seemed to stall in 1938 when the GDP increased less than 1% over the previous year. Similarly, the average annual unemployment rate peaked at 19.3% in 1933, dropped to 9.1% by 1937, and rose again to 11.4% in the next two years. The unemployment rate averaged 9.2% in 1940.

The real average annual wage of men increased by 16% between 1930 and 1940 to \$9,600. Women, however, suffered a drop of 6%, with an average annual wage of \$4,700 in 1940. Because of this reduction for women, the overall average annual wage at \$8,400 was larger by only 10% in 1940 than



it was in 1930. This was the only decade when the real wages of women fell.

Two factors may have been responsible for the opposite trends in the wages of men and women. Firstly, the Second World War brought to a halt the normal growth in the civilian labour force with the enlistment of men in the Armed Forces.<sup>3</sup> The number of male wage-earners in 1940 was only 7% higher than in 1930, but the number of female wage-earners had increased by 33%. Most women joined the workforce to support the war effort. Men worked, on average, the same number of weeks in 1940 and 1930, but the average number of weeks women worked was 13% lower. Secondly, it is also possible that the long-term impact of the Great Depression was more severe for female wage-earners than for males, especially since, by 1940, many men who might otherwise have been unemployed had already joined the Armed Forces.

#### **Wages begin to grow with war and post-war economy (1940-1950)**

The size of the civilian labour force began to shrink with the advent of the Second World War, while the demand for labour started to increase. Compared with 1939, there were about 42,000 fewer persons in the labour force in 1940.<sup>4</sup> Thereafter, the size of the civilian labour force did not increase until after the war in 1946. The war kept the economy in a high gear but its end caused a temporary slowdown in economic activity in 1945 and 1946. Then, in 1947, the economy bounced back strongly. As a result, the unemployment rate throughout the decade was very low.

Both men and women gained in wages. Between 1940 and 1950, the average annual wage of men increased by 34% to \$12,800 and that of women by 56% to \$7,400.<sup>5</sup> The proportion of female wage-earners was quite small so that, although

the increase in their real wage was 1.6 times that of men, it had an insignificant impact on the overall real average annual wage, which increased by 34% to \$11,200 in 1950.

#### **The decade of largest gains (1950-1960)**

The labour force continued to expand between 1950 and 1960, but the overall momentum of the post-war economic activity could not be sustained. Unemployment during the early 1950s was quite low, but rose to about 7% in the later years.

The Great Depression and the Second World War had also brought about certain far-reaching shifts in industrial and occupational structures. The 1951 Census showed, for the first time, a reduction in the number of persons engaged in agriculture and resource-based industries (Ostry, 1967). The largest expansion was in clerical occupations. It began after the war and its primary impact was on women. Compared with 19% in 1921, 29% of the female labour force was in clerical occupations in 1961. The proportion of men increased and that of women decreased by 8 percentage points in manufacturing and mechanical occupations. Women were concentrated in the service and clerical occupations.

These trends continued after 1961. The proportion of men in farming occupations continued to fall, to less than 6% of the male labour force in 1991, while their proportion in the managerial occupations more than doubled between 1961 and 1991, to 10%. In the case of women in the labour force, their proportion in product fabricating continued to drop steadily over the years to stand at 3% in 1991, while their proportion in clerical occupations fell to 30% from a peak of 35% in 1981. The growth of women's share in the managerial occupations paralleled that of men, rising from only 1% in 1961 to nearly 8% of the female labour force in 1991.



Wages of both men and women increased substantially. The inflationary pressure of the post-war years subsided during the 1950s. Perhaps the pent-up demand of the war years had been satisfied by the end of the 1940s. The Consumer Price Index (CPI) increased by only about 6 points between 1950 and 1960. Consequently, of the decades studied, the 1950s saw the largest gains in real wages. The overall average annual wage increased by 43% to \$16,000 in 1960. The average annual wage of men rose by 44%, from \$12,800 in 1950 to nearly \$18,500 in 1960, and that of women by 36% from \$7,400 to \$10,000.

The difference in wage increases of men and women might have resulted from two factors. On the one hand, the number of female wage-earners increased by 48% between 1950 and 1960. There was very little structural shift during the decade in the occupational distribution of the female labour force. Thus, the women joining the ranks of wage-earners in the 1950s most probably started at the lower end of the wage scale in generally low-paying occupations and depressed the overall average wage of women. On the other hand, although the increase in the number of male wage-earners was smaller (25%) than that of women, substantial changes occurred in the occupational distribution of the male labour force. There was a significant shift from low-paying, primarily agricultural, occupations to higher paying, mostly professional and technical jobs (Ostry, 1967). Furthermore, men might also have benefitted by moving to higher paying jobs as a result of training and education following their post-war demobilisation.<sup>6</sup>

#### Over a million women join the workforce (1960-1970)

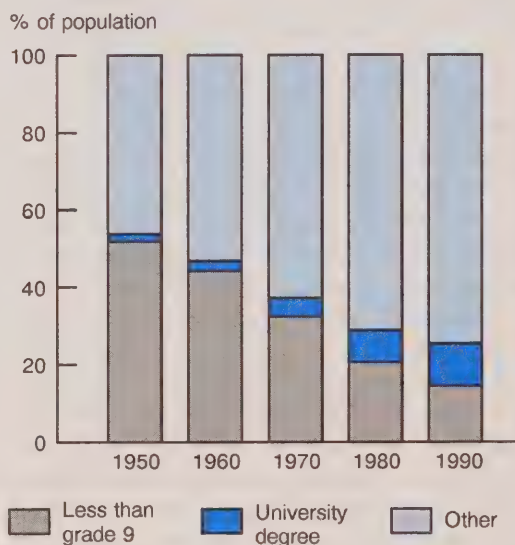
The trends observed in the 1950s continued into the 1960s. The pace of economic activity was robust with an annual growth rate of 5% in real terms in the GDP. The employment

situation was also quite good with the unemployment rate fluctuating between 3.6% and 7.1% between 1960 and 1970. This decade contained "probably the longest uninterrupted expansion – and certainly the longest peacetime expansion – in Canadian business cycle history" (Economic Council of Canada, 1967).

Over the entire period from 1920 to 1990, many changes also took place in the educational attainment of Canadians. More than half (52%) of the population 15 years and over had less than a grade 9 education in 1951 (Statistics Canada, 1989). This proportion dropped sharply with every passing decade; only 14% had less than a grade 9 education in 1991 (Chart C). At the other end of the spectrum, less than 2% of all persons had a university degree in 1951. This proportion increased to 5% in 1971 and to 11% in 1991.<sup>7</sup> Another notable development has been the changing sex composition

Chart C

**The level of education in Canada has been rising continuously over the years.**



Source: Census of Canada

of university degree holders. In 1951, 73% of them were men; by 1991, the percentage had been reduced to 55%.

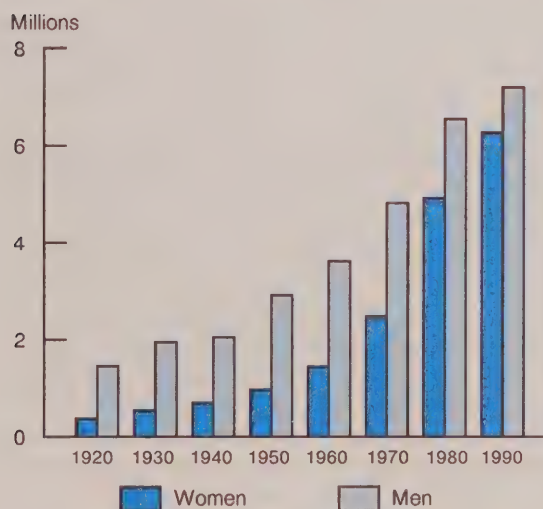
The 1960s brought wage-earners gains in real wages similar to those in the previous decade. The average annual wage of men increased by 42%, from \$18,500 in 1960 to \$26,200 in 1970, and that of women increased by 36% from \$10,000 to \$13,700. The overall increase in the average wage in this decade (37%) was lower, however, than in the previous decade (43%). This was, at least in part, the result of the addition of over a million female wage-earners between 1960 and 1970.

#### **Inflation keeps real wage gains low (1970-1980)**

Perhaps the most noteworthy development occurring between 1920 and 1990 was the continuing change in the composition of

Chart D

**Since the 1960s, the number of female wage-earners has increased dramatically.**



Source: Census of Canada

wage-earners by sex (Chart D). Throughout the period, the rate of female labour force growth exceeded that of men. In 1920, 8 of 10 wage-earners were men. By 1960, this proportion had declined to a ratio of 7 in 10. During the 1960s, over 2.2 million additional persons became wage-earners (nearly half of whom were women) and, for the first time, women accounted for more than one-third of them.

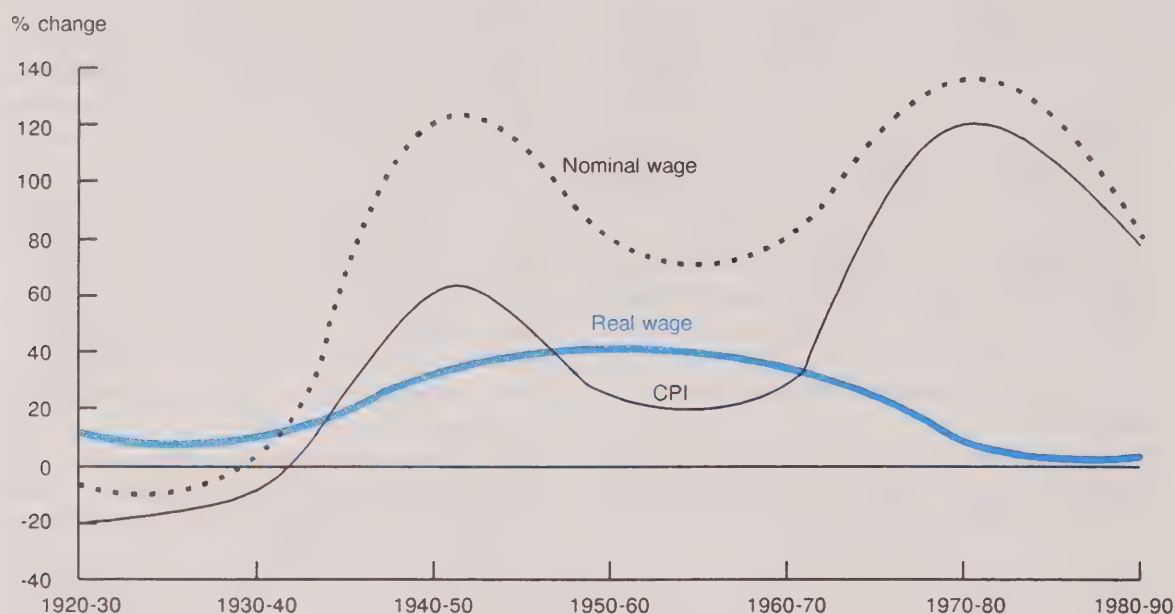
The 1970s saw the largest increase in the number of wage-earners – an influx of 4.2 million. For women, the increase was even more spectacular than in the 1960s, as their number jumped from 2.5 million in 1970 to 4.9 million in 1980. By 1990, only a little over half (54%) of all wage-earners were men.

Inflation also galloped forward in the 1970s. The CPI more than doubled, from 41.0 in 1970 to 88.9 in 1980. In other words, what a wage-earner could buy for \$1.00 in 1970 required \$2.17 in 1980. Thus, the 135% increase in the current average annual wage between 1970 and 1980, although the highest in any decade in this century, amounted to a less than 9% increase in real terms (Chart E).

Between 1970 and 1980, the real average annual wage of men increased by 14%, from \$26,200 in 1970 to \$29,900 in 1980, and that of women by 15% from \$13,700 to \$15,700. Although both men and women gained about equally, the overall increase in real wages was, as noted, less than 9%. This paradox of an overall change being less than the changes in its component parts resulted from the change in the sex composition of wage-earners. The proportion of female wage-earners increased from 34% to 43% between 1970 and 1980. Since women on the whole had lower wages, their increased proportion among all wage-earners depressed the overall average wage.

Chart E

The rate of growth in real wages reached a peak in the 1960s and has since been falling.



Sources: Census of Canada and Consumer Price Index

### Wages stagnate (1980-1990)

The final decade in the period studied began and ended with recessions. The 1980s experienced the highest rates of unemployment since the Great Depression of the 1930s. The rate of increase in the number of wage-earners dropped from 57% in the 1970s to 18% between 1980 and 1990. Of the 2 million persons who joined the ranks of wage-earners during the decade, 1.4 million (66%) were women.

The inflationary pressure of the 1970s continued into the 1980s. It began to subside in 1983 but developed fresh steam in 1986. Between 1980 and 1990, the CPI rose by 78%. As a result, any nominal increases in wages were almost entirely consumed by higher prices. The overall real average wage rose by only 2% between 1980 and 1990.

For the first time, the real average annual wage of men fell from \$29,900 in 1980 to \$29,800 in 1990. But, notwithstanding the large increase in the number of female wage-earners, the average annual wage of women increased by 14% to \$17,900 in 1990. Part of this rise may be due to an increase in the proportion of women with higher levels of education and more work experience moving into better paying jobs. It would appear that the continuing attachment of women to the labour force had finally started to pay dividends.<sup>8</sup>

### Conclusion

From 1920 to 1990, Canada experienced, on the one hand, the turmoils of the Great Depression and the Second World War and,



on the other, long periods of economic expansion and prosperity. Most important of all was the achievement of a high standard of living along with a comprehensive social security system. The growth in real wages was the primary source of these positive developments. These changes were accompanied by important and far-reaching changes in Canada's industrial and occupational structures, in the sex composition of the labour force and in the educational profile of the population.

Over the 70 years, both male and female wage-earners quadrupled their purchasing power through increases in their wages (4 and 4.4 times, respectively). The overall increase in the average annual wage was, however, somewhat lower (3.6 times) because of the spectacular increase in the proportion of female wage-earners who have generally lower wages.

The overall average wage of women remained significantly lower than that of men. There was very little change in the female-to-male wage ratio during most of the period reviewed. The 1991 Census data, however, indicate a significant improvement in the last decade with the overall female-to-male wage ratio increasing from 52.6% in 1980 to 60.3% in 1990.

In the first half of the period reviewed, most families had only one earner, generally the husband. After the Second World War, first, rising individual wages and then, the increasingly common phenomenon of families with two wage-earners, were the main sources of the rising standard of living.

Economic "growth was the major force behind poverty reduction in the 1950s and 1960s. The force was, more precisely, the growth of real wages, which allowed low-income workers to make progress vis-à-vis the poverty line" (Levy, 1988). An examination of wage trends reveals that rising wages coincided with the productive activity needed to satisfy pent-up demand from war

(and depression) years for housing and durable goods and changing demography through marriages and the baby boom. The increase in both the quantity and quality of labour and shifts in occupational and industrial structures brought about by technological advances were other positive factors leading to a rise in real wages.

Rapid increases in real wages in the three decades after the war gave rise to expectations of an automatic rise in real wages. However, unsustainable rates of increase in the labour force, demands for higher wages to combat sharp increases in the cost of living leading to a vicious wage-price spiral, a reduction in labour productivity growth and an increasing debt burden were strong negative pressures that halted, or at least suspended, the growth in real wages during the 1980s.

The 1990s have already introduced new factors which will have an impact on wages. An important new development consists of the removal of trade barriers and, at the same time, the formation of large regional trading blocs. "Periods of sustained economic growth and prosperity in Canada have historically and almost invariably been associated with dynamically expanding exports and imports" (Economic Council of Canada, 1964). This statement, made 30 years ago by the Economic Council of Canada in its First Annual Review, is equally relevant today when our exports account for about 30% of our real GDP. But the decline in productivity growth during the last 15 years threatens our competitive position.

The rate of increase in the labour force has moderated considerably compared with the 1960s and 1970s. A major segment of the labour force consisting mostly of women and baby boomers has become better trained and more experienced. Rising levels of education should improve both the quality and productivity of labour. These factors suggest

the potential for a resumption of growth in real wages, albeit unlikely at the extraordinary pace of the 1950s and 1960s. □

The author wishes to thank Professor Monica Boyd of Florida State University for her valuable comments and suggestions in reviewing this article.

## Notes

<sup>1</sup> Beginning with 1971, information on the annual wages of individuals is available from the Survey of Consumer Finances.

<sup>2</sup> Wage data from the 1921 to 1961 Censuses relate to the 12 months preceding the census (see *Data sources and concepts*).

<sup>3</sup> The 1941 Census excluded persons on active military service.

<sup>4</sup> In 1939, the Canadian Armed Forces consisted of 7,945 persons. Their strength increased to 92,296 in 1940 and 260,553 in 1941. It reached a peak in 1945 at 761,041 persons. Post-war demobilization brought the number down to 47,185 in 1950 (Colombo, 1992).

<sup>5</sup> The rate of increase in the average wage of women between 1940 and 1950 is somewhat misleading con-

sidering the atypical drop in their wages between 1930 and 1940.

<sup>6</sup> The immediate post-war period saw an increase in the number of men entering universities and colleges. In 1945, these institutions had awarded degrees to 7,200 men (Statistics Canada, 1978). In 1950, the number of degrees awarded to men more than doubled to 14,900.

<sup>7</sup> The composition of the group with educational levels between grade 8 and a university degree also changed. Compared with a little over one-fourth in 1971, nearly two-fifths of this group had some postsecondary education in 1991.

<sup>8</sup> This was also the decade when some important legislation covering employment equity was put in place.

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# The renaissance of self-employment

Susan Crompton

Until the emergence of a heavy industry economy, which introduced assembly line production and highly structured work systems, a large minority of Canadians were self-employed. In 1931, 26% of workers, over one million, were self-employed. In 1951, the self-employment rate was 20%; by 1971, the rate was only 10%, or 800,000 workers. Over a period of 40 years, the self-employed workforce declined 21% while the paid workforce grew 194% (Chart A).<sup>1</sup>

One reason for Canada's historically high self-employment is that agriculture, formerly the country's major employer, has always been characterized by high rates of self-employment. Thus, shrinking agricultural employment has had a deeply negative impact on the overall rate of self-employment. In 1931, 29% of Canadian workers were in agricultural major occupations; over half – 57% – were self-employed, a rate far higher than that in any other major occupation.<sup>2</sup> In 1971, although 65% of workers in the agriculture industry were in business for themselves, little more than 4% of the workforce was employed in agriculture.<sup>3</sup>

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The same conditions of very small employment share and atypically high self-employment also apply to the fishing industry. Since these two industries account for almost two-thirds of employment in the primary industries, and since primary industries are frequently dealt with under their own rubric in labour market analysis, the rest of this article will discuss only the non-primary industries.<sup>4</sup>

Chart A

**Self-employment fell as agriculture declined but then stabilized as services expanded.**



Source: Census of Canada

## Self-employment in the 70s and 80s

Although a much smaller proportion of people are running their own businesses now – the natural outcome of a mass production economy – self-employment is on the rise again. And its growth has been quite startling. Between 1971 and 1991, the number of self-employed workers in non-primary industries jumped over 105%, from 540,000 to 1.1 million. That is, it increased from 7.0% of the non-primary workforce in 1971 to 8.4% in 1991 (see *Definitions*).<sup>5</sup> Over the same period, the number of paid workers rose a more modest 70%. Even in the comparatively sluggish period between 1981 and 1991, the number of self-employed workers grew at twice the pace of the paid workforce (40% versus 18%).

### The recent trend to self-employment

Using shift-share analysis, it is possible to separate self-employment's growing proportion of total employment into two components. The first component is the impact of employment growth in those industries with historically high rates of self-employment. In other words, if employment growth in industries with above-average levels of self-employment was higher than overall employment growth, then one would see a higher total rate of self-employment, even though the rates in individual industries remained the same. This component measures employment by industry, and does not suggest a trend to self-employment *per se*.

The second component reflects the growth in self-employment within industries. This component indicates the extent to which self-employment is increasing in that industry. (A third component measures the interaction between the first two, but it is generally very small.)<sup>6</sup>

## Definitions

**Labour force, workforce** – (referred to in census publications as the experienced labour force) persons who were employed or unemployed in the week preceding census day, but who had worked at some time since January 1 of the previous year. That is, it excludes those individuals in the labour force who had never worked before, or who had last worked prior to January 1 of the year preceding the census. The experienced labour force generally includes unpaid family help in the universe; however, in this article, persons who did not receive remuneration for their work activity are excluded from the analysis.

**Industry** – based on the 1970 Standard Industrial Classification (SIC). If the respondent was unemployed during the week preceding the census, but had worked at some point since January 1 of the previous year, the industry in which he or she had last worked was recorded. For persons holding two or more jobs simultaneously, their industry affiliation was determined to be that of the job for which they recorded the most hours.

**Paid workers** – persons working for wages or salaries.

**Self-employed workers** – persons whose job consisted mainly of self-employment. This includes owning and operating a business or professional practice, alone or in a partnership; operating a farm; working on a freelance or contract basis to do a job; providing meals and/or rooms and/or daycare services in one's own home; operating a direct distributorship selling or delivering products such as cosmetics; and fishing with equipment owned in whole or in part ownership with others. These self-employed workers may or may not have paid help; they also may or may not be incorporated.

**Income** – all income data are expressed in constant 1990 dollars; data are for income received in the calendar year preceding the census.

**Average total income** – mean income of individuals who reported any income at all, whether positive or negative, from all sources, such as employment earnings, government transfer payments, interest and dividends. Employment earnings may or may not be associated with the job reported at the time of the census.

The shift-share analysis from 1971 to 1991 shows that self-employment growth in the non-primary industries was mainly the result of increasing employment (that is, the first component of change). This conclusion,



though, masks two very separate and distinct phases in development over the two decades. Between 1971 and 1981, the increase in the overall rate of self-employment was marginal, and the rise could be credited to higher levels of employment. In the following decade, almost 60% of the rise was due to growing self-employment within industries (Table 1).

### Reasons for becoming self-employed

People become self-employed for reasons as varied and complex as the entrepreneurs themselves, creating a heterogeneous "brew" that makes it extremely difficult to generalize about motives. The shift from a goods- to a service-producing economy (with its attendant changes in business practices and technology), improved educational qualifications, the nature of the work, government and tax incentives, market demand, the presence of a working spouse, a preference

for working without a boss – all these and others may play a role in the decision.

Several theories about the factors contributing to self-employment are commonly discussed. Among them are the hypotheses that self-employment is rising because: (1) industrial restructuring in the economy favours the production of services, a process which generally requires less investment in capital and more in skill and knowledge, thereby opening more opportunities to more people; (2) the aging and rising educational level of the workforce produces more skilled and experienced workers willing to risk self-employment; and (3) hard economic times push people into self-employment because they have no other options.

Economic hypotheses are spawned by conditions and trends prevailing at the time, so one may provide a more appropriate explanation of events than another during a particular period. The shift-share analysis

Table 1  
Self-employment by industry

	Number of self-employed			Rate of self-employment		
	1971	1981	1991	1971	1981	1991
	%					
Non-primary industries	539,705	794,850	1,109,200	7.0	7.1	8.4
<b>HSE industries*</b>	<b>355,435</b>	<b>585,855</b>	<b>817,460</b>	<b>12.4</b>	<b>13.1</b>	<b>14.4</b>
Construction	78,435	136,920	175,940	14.6	18.3	19.9
General contractors	19,420	38,000	55,370	7.4	12.3	16.4
Special-trade contractors	59,015	98,920	120,570	21.7	22.4	22.0
Transportation	29,965	44,315	56,670	7.4	8.3	9.7
Trade	143,650	214,320	236,970	11.5	11.0	10.2
Wholesale	24,920	41,180	49,460	7.2	7.4	8.4
Retail	118,735	173,135	187,515	13.2	12.5	10.9
Insurance agencies and real estate	11,280	18,720	27,390	11.1	9.3	11.4
Community, business and personal services**	92,105	171,580	320,490	16.0	16.4	19.7
Amusement and recreation	7,290	15,610	26,370	9.8	11.5	13.3
Services to business management	34,840	80,855	163,850	16.8	16.8	20.1
Personal services	35,365	37,605	73,220	20.0	20.6	25.6
Miscellaneous services	14,610	37,510	57,050	12.5	15.0	17.4
Other non-primary industries	184,270	208,995	291,740	3.8	3.1	3.9

Source: Census of Canada

\* See High self-employment industries.

\*\* Excludes education, health and welfare, religious organizations and accommodation and food services.



seems to support the contention that the industrial restructuring and age/education hypotheses are germane to the whole period 1971 to 1991, while the hard times thesis may be more applicable to the latter half. The shift from a goods- to a service-producing economy, and improvements in educational attainment, were underway by 1971, so it makes sense that growing overall employment was driving a large portion of the rise in self-employment. It also makes sense that between 1981 and 1991, self-employment within industries accounted for a large portion of the increase in entrepreneurship, given the severe recession of 1981-82 and the acceleration in changing business practices – "contracting out," temporary help, consulting, and special legal, financial and managerial expertise.<sup>7</sup>

These hypotheses serve as a guide to briefly profile self-employed workers. Using census data, this paper focuses on workers in those non-primary industries that consistently recorded above-average rates of self-employment between 1971 and 1991. Over half of the industries selected posted rates of self-employment growth above the non-primary average. The status of self-employed women in 1991 is also sketched.

### **The high self-employment (HSE) industries, 1971 to 1991**

The industries that recorded above-average rates of self-employment were almost exclusively in the service-producing sector. Perhaps more importantly, the industries with the highest rates of self-employment were essentially the same in 1991 as in 1971: construction, trade, transportation, insurance agencies and real estate, and business and personal services. (For a complete list of major industry groups and a description of the selection criterion, see *High self-employment industries*.)

The overall self-employment rate for the high self-employment (HSE) group of industries was very high – 12.4% in 1971 and 14.4% in 1991. (The overall rates for the non-primary industries were 7.0% and 8.4% respectively.) Shift-share analysis of the HSEs shows that self-employment growth within these industries was the major contributing factor to the overall rise in self-employment, accounting for 72% of the increase over the period.<sup>8</sup>

#### **Industrial restructuring**

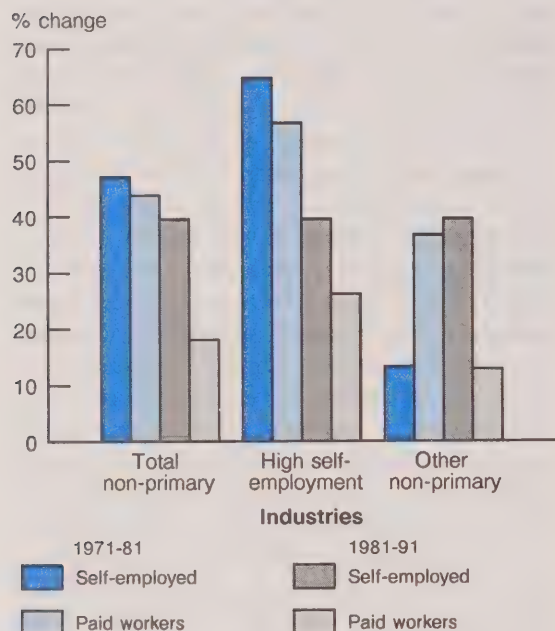
The dislocation and upheaval in the economy since the 1970s must have contributed to the considerable success of the HSE industries. For example, self-employed workers in services to business management have thrived on new business practices, as well as on technical and service support for new business tools such as microcomputers and telecommunications equipment (which have, in turn, greatly facilitated the provision of all business services). Similarly, the influx of women into the workforce generated increased demand for many personal services that are more easily provided by entrepreneurs than corporations, such as daycare and housekeeping (Chart B).

Although total employment in the HSE industries grew, ups and downs occurred in individual industries. The employment shares of eight of the ten rose as their workforces increased faster than total employment. But two HSEs, general contractors and transportation, lost employment share. Nevertheless, the share of self-employment grew in all the HSEs except retail trade.

These data appear to support the theory that industrial restructuring affects the rate of self-employment. It plummeted as the economy shifted from agricultural to goods production, and began to revive as the economy shifted again, this time into service production.

Chart B

**Growth in self-employment generally exceeded that in paid employment.**



Source: *Census of Canada*

### Age and education important characteristics of self-employed workers

In general, self-employed workers were more likely than paid workers to be 45 or over – 50% in 1971 and almost 41% in 1991, compared with 30% and 25% for paid workers.<sup>9</sup> The same is basically true of the HSE industries, where self-employed workers were older than paid workers, although the gap was somewhat narrower than that between self-employed and paid workers in other non-primary industries. Only in insurance and real estate – an HSE industry in which success may depend more heavily on experience and reputation to attract repeat customers – were over half the self-employed workers past their mid-40s.

### High self-employment industries

Initially, this study defined an industry as high self-employment (HSE) if it had a rate of self-employment above the average for all non-primary industries in a census year. Most HSE industries were the same from one year to the next, with one or two "satellites" moving in and out of the group, so the definition was refined to include only those industries with above-average rates in each census year (1971, 1981, 1991), and more than 5,000 self-employed workers in 1971. (This criterion excluded the furniture and fixtures industry, which had fewer than 4,000 self-employed workers in 1971.) The HSE industries were:

- Construction (division)
  - General contractors (major group)
  - Special-trade contractors (major group)
- Transportation (major group)
- Trade (division)
  - Wholesale (major group)
  - Retail (major group)
- Insurance agencies and real estate (major group)
- HSE sub-group of Community, business and personal services division
  - Amusement and recreation services (major group)
  - Services to business management (major group)
  - Personal services (major group)
  - Miscellaneous services (major group)

Growth in self-employment was not used as a selection criterion since it can be misleading: self-employment would grow 100% if the number of entrepreneurs in an industry rose from two to four. However, six of the ten HSE industries also recorded above-average growth in self-employment from 1971 to 1991; that is, their self-employment levels more than doubled over the period.

These data support the conventional wisdom that by the time people reach their mid-40s they have generally acquired the knowledge, accumulated the capital or achieved the financial stability necessary to take the step into self-employment. As well, workers over 40 may also have considerably more difficulty finding paid employment should they lose a job.

A corollary to the age/experience proposal is the argument that the workforce's rising level of educational attainment might account for the growing rate of self-employment. In 1971, self-employed workers were



more likely than paid workers to have either less than a Grade 9 education (34% versus 24%) or a university degree (10% versus 7%). By 1981, proportionally fewer self-employed workers were less educated and more were better educated. This distribution had become even more pronounced by 1991, and may partly reflect the age structure of the self-employed workforce, since older workers have tended to have less formal education than their younger colleagues (Chart C).

In the HSE industries, workers in construction and transportation made the biggest gains in educational attainment. Between 1971 and 1991, the proportion of self-employed workers with at least some

postsecondary training more than doubled in construction and tripled in transportation. (Similar, but less dramatic, improvement occurred among paid workers in these two industries.)

Educational attainment in the HSE industries in the community, business and personal services division also recorded substantial growth, from 45% to 72% having at least some postsecondary qualifications. These industries contain a mix of services with very different employment needs, from the highly skilled to the virtually unskilled. Yet in 1971, the proportion of workers who had at least some postsecondary qualifications was considerably higher than the self-

Chart C

**Educational attainment tends to be more polarized among self-employed workers in the HSE industries.**



Source: Census of Canada



employed average for HSE industries. The high standing in 1971 was attributable almost solely to services to business management, where 75% of self-employed workers had at least some postsecondary or university training.<sup>10</sup> But by 1991, the proportion of workers with such qualifications in the other three industries had doubled.

### **Full-time, full-year self-employment dropped in HSEs**

The self-employed were somewhat more likely than paid workers to work full time, full year (30 or more hours per week, 49 to 52 weeks per year). In 1971, 62% of the self-employed and 54% of paid workers in the non-primary industries were putting in 30 or more hours a week for a full year. These proportions dipped in 1981, but by 1991 they had rebounded to earlier levels.

In 1971 and 1981, the self-employed in the HSE industries recorded higher rates of full-time, full-year work than the self-employed in the other non-primary industries, but by 1991, the rates were almost identical. Work activity rates did rise in the HSE industries of construction and transportation, both of which recorded gains in full-time, full-year work. But while transportation reached the HSE average of 61% in 1991, construction remained below it, no doubt owing to the seasonal nature of much of the work.

The hard times thesis of self-employment holds that lack of suitable work, low wages or high unemployment leads to an increase in self-employment; that is, self-employment is used as a substitute for paid work. The hypothesis cannot be tested using census data; even using longitudinal data would prove difficult, given the nature of most datasets. Suffice it to say that the argument makes sense intuitively, and much anecdotal evidence supports it.

## **Incomes of the self-employed**

### **Total incomes down in the 1980s<sup>11</sup>**

All the advantages of maturity, education, and skill, to say nothing of fortunate circumstances, government incentives and hard work, are irrelevant if the self-employed worker cannot earn a reasonable living. Whether they leave a comfortable position to strike out on their own, or are driven by unfortunate circumstances to make ends meet, most self-employed people must hope to earn more money than they would working for someone else. And their hopes may be realized. In 1990, the average total income of workers in non-primary industries running unincorporated firms was about 14% more than the total income of paid workers; for those with incorporated businesses, it was about 34% more. In the HSE industries, self-employed workers with unincorporated firms had incomes averaging 9% higher than those of paid workers, while entrepreneurs running incorporated firms averaged 40% higher. (All income data are expressed in constant 1990 dollars and cover full-time, full-year workers only. Also see *Income data limitations* for information on different income reporting requirements of owners of unincorporated and incorporated firms.)

### **Incomes in HSE industries**

Although the total incomes of self-employed workers in HSEs were higher than those of paid workers, the latter enjoyed a significant increase in their total incomes over the period 1970 to 1990 (12%). The same cannot be said of the self-employed: the gains for those with unincorporated firms were marginal (only 2%), while improvements for those with incorporated businesses were nonexistent (almost a 5% drop).

### Unincorporated firms

Although the overall total incomes for the self-employed with unincorporated firms rose a modest 2% between 1970 and 1990, all individual HSE industries recorded losses in total incomes, except transportation. In this industry, real incomes rose 8%, from \$30,600 in 1970 to \$33,100 in 1990.

The biggest drop in total income was reported in services to business management, down 18% from 1970 to 1990. The largest portion of this decline occurred between 1970 and 1980, when the number of full-time, full-year workers running unincorporated firms in the industry rocketed 89%. Since many of those who were "in the business" throughout the period likely experienced increased incomes, the fall in the industry average was probably due to the "drag" on the average caused by the low incomes of many of the new entrants. (The 39% increase in new full-time, full-year entrants probably partly explains the dropping incomes in other HSEs between 1980 and 1990.)

It is easy to see why services to business management would attract so many newcomers: in all three census years, it was the most remunerative of the HSE industries, recording total income almost double the average for self-employed workers in HSEs.

### Incorporated firms

Between 1970 and 1990, owners of incorporated businesses recorded an overall 4.6% loss in real income, as total incomes fell in eight of the ten HSE industries. Wholesale trade suffered the most – down 12% – as the decline that began in the 1970s accelerated in the 1980s. The only industry showing a real gain (apart from the modest growth in transportation incomes) was insurance agencies and real estate, where total real incomes increased more than 9%, from \$57,600 in 1970 to \$63,000 in 1990 (Table 2).

### Income data limitations

This article uses average total income to measure the financial standing of self-employed workers, that is, income from all sources, including net self-employment earnings, wages and salaries, interest and dividends, etc. There are several reasons for making this choice, the most compelling being that the self-employed report their employment earnings differently.

Self-employed workers with unincorporated businesses report their earnings net of expenses incurred in operating a business, professional practice or non-farm business, meaning they may write off portions of their home or mileage on their car when used for business, wages paid to employees, and so on. Those with incorporated firms report their earnings as wages and salaries and may "top up" their salaries with dividends from the company. Since census data do not allow the separation of dividends from other investment income, it is not possible to determine how much income workers running incorporated businesses may actually be earning from their employment. Both groups of self-employed workers may therefore underreport the amount they actually earn from employment.

Furthermore, a certain "self-selection" is operating here. Being incorporated entails a somewhat more complicated life than being unincorporated, and those able to incorporate tend not to do so until the business is generating a certain level of gross income. Therefore, owners of incorporated firms are probably earning more than those who do not incorporate their businesses.

There are several other reasons why the income data should be interpreted with caution. Because the mix of occupations in one industry often differs substantially from that in another, an industry with a concentration of more highly paid occupations will tend to report greater average incomes. (Even the mix of occupations between firms in the same industry may differ.) Also, averages can be influenced by the effects of a large influx of new entrants whose (presumably) lower earnings would pull down the industry average. Similarly, income disparities between those full-time, full-year entrepreneurs working 50 or 60 "billable" hours a week and those working 35 hours could be erased by an average.

### Self-employed women

The number of self-employed women in non-primary industries grew almost 265% over 20 years, rocketing from just under 89,000 to over 323,000. This far outpaced the 74% growth in male self-employment, from 451,000 to 786,000. The increase in women



Table 2

## Average total income of self-employed workers by incorporation status and industry

	Incorporated				Unincorporated			
	Full-time, full-year			Change	Full-time, full-year			Change
	1970	1980	1990	1970-1990	1970	1980	1990	1970-1990
	1990 \$			%	1990 \$			%
Non-primary industries	49,200	48,400	46,800	-4.9	37,200	40,000	39,700	6.7
<b>HSE industries</b>	<b>48,700</b>	<b>48,000</b>	<b>46,500</b>	<b>-4.6</b>	<b>35,500</b>	<b>36,900</b>	<b>36,200</b>	<b>1.9</b>
Construction	54,600	49,000	49,500	-9.4	36,200	34,600	33,700	-6.7
General contractors	63,700	53,200	59,600	-6.4	41,000	36,800	35,300	-13.8
Special-trade contractors	49,000	46,700	43,700	-10.8	35,000	33,900	33,100	-4.5
Transportation	39,100	45,500	40,100	2.5	30,600	35,600	33,100	8.2
Trade	45,900	44,100	40,600	-11.6	29,100	27,700	26,300	-9.7
Wholesale	57,800	55,700	50,800	-12.2	36,400	37,500	32,500	-10.6
Retail	41,800	39,600	37,100	-11.4	28,100	26,300	25,100	-10.5
Insurance agencies and real estate	57,600	67,000	63,000	9.3	50,000	47,400	45,900	-8.2
Community, business and personal services*								
Amusement and recreation	45,900	40,300	44,800	-2.2	29,100	27,400	26,800	-7.9
Services to business management	64,400	62,500	59,500	-7.6	76,800	68,800	62,800	-18.2
Personal services	30,900	32,800	27,300	-11.6	21,500	23,800	19,200	-10.4
Miscellaneous services	43,200	39,900	38,500	-10.9	30,700	27,800	27,200	-11.6

Source: Census of Canada

\* Excludes education, health and welfare, religious organizations and accommodation and food services.

entrepreneurs translated into a two percentage point rise in the self-employment rate for women, from 3.3% of the female workforce in 1971 to 5.4% in 1991; nevertheless, self-employment rates for women still remained about half those for men (Chart D).

Self-employment may very well have been spurred by the 121% increase in the number of women working in the non-primary industries (from 2.7 million in 1971 to almost 6 million in 1991). Shift-share analysis shows that the reason for the rise in the overall self-employment rate for women was principally due to the increasing trend towards self-employment within industries, which accounted for about 82% of the change. (This is not too surprising, given that women gravitate towards the service industries, and that these industries have

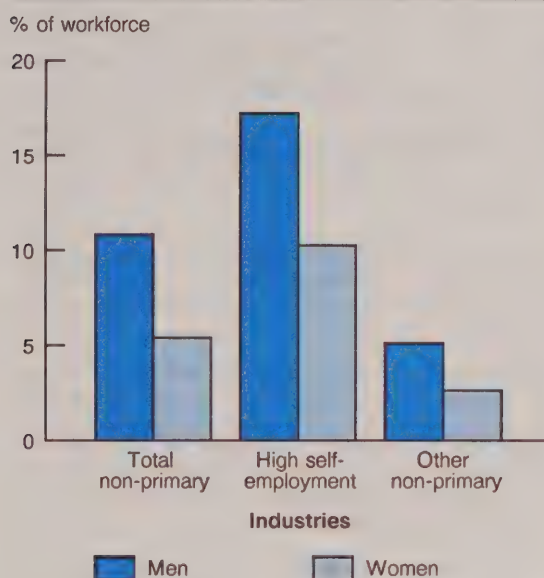
experienced high employment growth since the 1970s and historically have high rates of self-employment.)

The industries in which women recorded a higher-than-average rate of self-employment in 1991 were the HSEs already identified, excluding transportation, as well as three manufacturing industries.<sup>12</sup> Women's educational standing also conformed to the self-employment norm: in general, they were slightly better educated than women in the paid workforce – 58% compared with 54% had at least some post-secondary or university education in 1991 – but they were no more likely than self-employed men (56%) to have such qualifications. Not surprisingly, self-employed women in health and welfare were most highly educated: 71% had university degrees



Chart D

**In 1991, self-employment rates for men were twice those for women except in the HSE industries.**



Source: *Census of Canada*

and another 22% had other postsecondary credentials. Women in the HSEs were somewhat less likely to have a university degree than their male counterparts – 16% compared with almost 19%.

Self-employment may put women "in charge," but their total incomes were still significantly less than those of men. In 1991, women working full-time, full-year to run an incorporated business had net total incomes averaging \$30,700, only 60% that of men in a similar position (compared with 69% among paid workers). The difference was even larger for women with unincorporated firms, at \$25,100 or 55% of men's incomes.

The effect of a large number of new entrants into an industry, in conjunction with age differences, may account for some of

the male-female income disparity. Self-employed women tended to be younger than self-employed men – 64% compared with 57% were under 45 (and 30% compared with 25% were under 35). Younger workers with fledgling companies or recent professional qualifications have had less time to establish a solid client base.

Furthermore, many self-employed women also tended to have lower total incomes than paid women workers. The shortfall in 1991 averaged about 9% for those running unincorporated businesses. Average total incomes were greater than those of paid workers in only three industries – health and welfare (64%), services to business management (30%) and accommodation and food services (13%).<sup>13</sup>

Women running incorporated firms averaged about 11% more than paid workers with highest incomes in services to business management, accommodation and food services, and trade.

## Summary

The forces driving people to become self-employed will likely continue over the next decade. Indeed, they will probably accelerate. So far, these forces have produced an additional 570,000 entrepreneurs in the non-primary industries over the last two decades. The general expansion of employment is responsible for some of the increase, but opportunities for self-employment also expanded as the economy became more service-driven and the entrepreneurially minded took advantage of it. Indeed, the highest rates of self-employment were to be found almost exclusively in service-producing industries; and they were attracting younger, better-educated people as the years went by. □

## Notes

<sup>1</sup> See *Data sources and concepts* on page 12 for detailed information on labour force concepts used in past censuses.

<sup>2</sup> Only fishing, hunting and trapping had a higher rate of self-employment, at 73%, but this group of workers accounted for only 1% of the total workforce in 1931.

Self-employment rates from the 1931 Census, the earliest year for which comprehensive data on self-employment are available, can be calculated for occupations only. However, agricultural occupations and the agriculture industry were synonymous in 1931 since over 99% of workers in the agriculture industry were classified to agricultural occupations.

<sup>3</sup> This figure excludes unpaid family workers, who accounted for 34,300 workers of a total of 510,000 agricultural workers in 1991 (7%).

<sup>4</sup> The primary industries are: agriculture; forestry; fishing and trapping; and mines, quarries and oil wells. The self-employment rate in 1991 for all primary industries was 35%, but they accounted for less than 6% of total employment.

<sup>5</sup> This article uses the 1970 Standard Industrial Classification to categorize industries.

The non-primary industry divisions are: manufacturing; construction; transportation, communication and other utilities; trade; finance, insurance and real estate; community, business and personal services; public administration and defence; and unspecified.

The "unspecified" division captures those members of the labour force for whom there is no industry assignment, but for whom other characteristics are available (such as age, sex and highest level of schooling). This division is included in the totals for non-primary industries.

<sup>6</sup> The shift-share formula used in this study is:

$$\sum_i a_{i,t+1} b_{i,t+1} - \sum_i a_{i,t} b_{i,t} = \sum_i a_{i,t} (b_{i,t+1} - b_{i,t}) + \sum_i b_{i,t} (a_{i,t+1} - a_{i,t}) + \sum_i [a_{i,t+1} (b_{i,t+1} - b_{i,t}) - a_{i,t} (b_{i,t+1} - b_{i,t})]$$

where  $a_{i,t}$  = the self-employment rate in industry  $i$  at time  $t$

$a_{i,t+1}$  = the self-employment rate in industry  $i$  at time  $t+1$

$b_{i,t}$  = the number of people employed in industry  $i$  as a proportion of total employment at time  $t$  (employment share at time  $t$ )

$b_{i,t+1}$  = the number of people employed in industry  $i$  as a proportion of total employment at time  $t+1$  (employment share at time  $t+1$ ).

<sup>7</sup> Paid employment in the non-primary industries grew by 44% in the period 1971-81 and by 18% in 1981-91; self-employment increased by 47% and 40%, respectively.

<sup>8</sup> Self-employment growth within industries accounted for 85% of the overall change in HSE self-employment between 1971 and 1981, and for 63% between 1981 and 1991.

<sup>9</sup> These proportions of workers aged 45 and over seem to contradict the popular belief that the workforce is aging. It is aging because younger people aged 15 to 24 constitute a smaller proportion of the working population and the middle age group (25 to 44) has increased its share. In other words, the workforce is aging from the bottom up.

<sup>10</sup> This industry contains a high proportion of professionals.

<sup>11</sup> All income figures refer to the year preceding the relevant census, that is, 1970, 1980, and 1990.

<sup>12</sup> In addition to the HSE industries, women in 1991 recorded higher-than-average rates of self-employment in furniture and fixtures, non-metallic minerals, and miscellaneous manufacturing. But in the manufacturing industries, the size of the female workforce is so small that a very small number of entrepreneurs tips them into the high self-employment group, thus exaggerating the actual significance of the change.

Men had higher-than-average self-employment rates in the HSE industries plus clothing, furniture and fixtures, miscellaneous manufacturing, and health and welfare.

<sup>13</sup> This information is based on data for industries with more than 5,000 full-time, full-year self-employed workers running unincorporated or incorporated businesses.

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# International employment trends by industry – a note

Ernest B. Akyeampong and Jennifer Winters

Over the last three decades, employment in a number of major industrialized countries increased, although at different rates. Data compiled on ten of these countries show that Canada recorded the highest growth (111%) over the period 1960-90 and Italy the lowest (5%).<sup>1</sup> This growth was accompanied by shifts in employment shares by industry – away from agriculture and manufacturing, and into services. However, the nature and pace of these shifts differed among countries. For example, Canada, the United States and the United Kingdom reported the largest employment share declines in manufacturing and the smallest in agriculture. The reverse trend was observed for Germany, France, Sweden and Italy.<sup>2</sup>

This note explores changing employment patterns by industry over the last three decades in ten industrialized countries and suggests possible explanations for these changes.

## Industry shifts

### Agriculture

For the ten countries combined, total employment in agriculture declined by 62%

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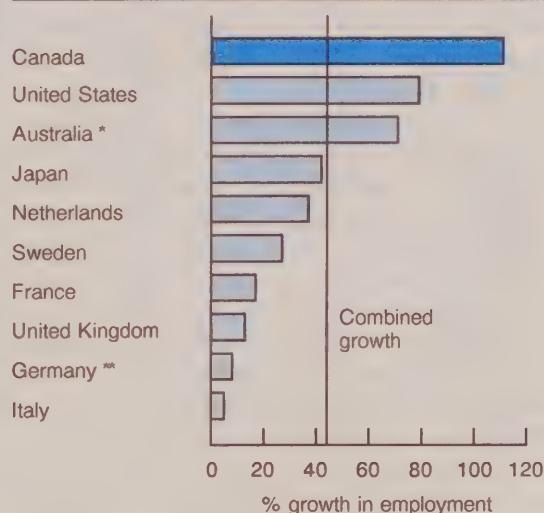
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over the period 1960-90 with most of the drop occurring in the 1960s. This decrease resulted in a fall in agriculture's share of total employment, from 17% in 1960 to 4% in 1990.

Agriculture's diminishing employment share can be attributed to many factors, in particular, the introduction of labour-saving technologies. The extent and

Chart A

Employment growth over the 1960-90 period was highest in Canada.



Source: Bureau of Labor Statistics, U.S. Department of Labor

\* Covers the period 1965 to 1990.

\*\* Refers to the Federal Republic of Germany before unification.



speed of introducing new technologies may account, in part, for the different rates at which agricultural employment declined across countries.

Although each of the ten countries under study experienced declines in both employment levels and shares in agriculture between 1960 and 1990, their rates of change varied. In general, the declines were smallest in those countries where agricultural employment shares were lower than average in 1960 and vice versa. Among the former group is Canada, whose agricultural employment fell by 33% and employment share declined from 13% to 4% over the thirty-year period. The latter group includes Italy, where employment in agriculture fell by 71% and its share dropped from 33% to 9% between 1960 and 1990.

## Manufacturing

Overall, employment in manufacturing rose by 10% in all ten countries combined between 1960 and 1990. Given the relatively faster growth in the number of workers in services, however, manufacturing's share of total employment fell from 27% to 21% over the same period.<sup>3</sup>

There was considerable variability in the rate and pattern of the decline in this industry's employment share. Notably, significant growth in manufacturing employment levels and shares in Japan, Germany, and Italy in the 1960s preceded the declines which were observed between 1970 and 1990. Both Canada and the United States registered strong employment growth between 1960 and 1980 and declines over the following decade. Manufacturing employment shares, however, fell in Canada after 1960, and in the United States from 1970 onwards. By 1990, this sector's share in the two countries was lower than the 21% observed for the ten countries as a group (16% in Canada and 18% in the United States).

## Data source

The data for this note were drawn from the Labstat database, a compendium of labour force statistics compiled by the Bureau of Labor Statistics, United States Department of Labor. Labstat provides annual data on the total and civilian labour forces, participation rates, employment, employment/population ratios, unemployment, and unemployment rates from 1959 onwards for the United States, Canada, and eight other countries. This note draws on employment data for the 1960-90 period.

Labstat is compiled from data produced by the statistical bureaus of the countries covered or by international agencies. Since statistical concepts and methods often differ among countries, not all labour market data are comparable. With the exception of the United States, Japan and Canada (1970 onwards), the employment data used in this note have not been fully adjusted for comparability.

Labstat provides data on employment for four industry groupings: agriculture, manufacturing, services and industry. The agriculture grouping consists of agriculture, forestry, hunting, and fishing. The service industries are transportation, communication, and other utilities; trade; finance, insurance and real estate; community, business and personal services; and public administration. Industry includes manufacturing, mining and construction. In this article, an "other" industry category is used in lieu of industry; it comprises construction and mining only (Table 1).

This note discusses employment shifts by industry group in agriculture, manufacturing, and services. The two "other" industries are not analyzed since they accounted for only 9 percent of total employment in 1960 in the ten countries combined, and this share changed little over the 1960-90 period.

For more information on the Labstat database, contact Constance Sorrentino, Supervisory Economist at the Bureau of Labor Statistics, Division of Foreign Labor Statistics, Washington, D.C., at (202) 606-5654; fax (202) 606-5664.

Several reasons may account for the decline in manufacturing's employment share in these industrialized countries. These include increased labour productivity in manufacturing, the "natural" outcome of industrial restructuring, and growing competition in manufactured goods by industrializing countries such as Korea, Taiwan, Singapore and Hong Kong.

Table 1  
Employment by industry grouping for selected countries, 1960-90

Year	Total	Agriculture*	Manufacturing	Services**	Other***
			'000		
Canada					
1960	5,965	795	1,471	3,264	435
1970	7,919	604	1,768	4,955	592
1980	10,708	583	2,111	7,194	820
1990	12,572	531	2,001	9,083	958
United States					
1960	65,778	5,572	17,149	38,212	4,846
1970	78,678	3,567	20,746	49,031	5,334
1980	99,303	3,529	21,942	66,638	7,194
1990	117,914	3,355	21,184	84,949	8,426
Australia					
1965†	4,614	448	1,207	2,514	446
1970	5,388	432	1,340	3,070	546
1980	6,284	408	1,248	4,058	570
1990	7,872	438	1,204	5,539	691
Japan					
1960	43,370	12,800	9,430	18,190	2,950
1970	50,140	8,490	13,750	23,770	4,130
1980	54,600	5,510	13,630	29,910	5,550
1990	61,710	4,270	15,010	36,550	5,880
Netherlands					
1960	4,576	469	1,326	2,322	460
1970	5,156	329	1,381	2,895	552
1980	5,520	285	1,176	3,593	466
1990	6,268	292	1,196	4,356	424
Sweden					
1960	3,581	564	1,133	1,598	286
1970	3,836	314	1,064	2,066	392
1980	4,214	237	1,025	2,650	302
1990	4,560	174	961	3,097	328
France					
1960	18,595	4,305	5,250	7,314	1,726
1970	20,328	2,751	5,593	9,765	2,219
1980	21,334	1,854	5,495	12,005	1,980
1990	21,684	1,310	4,612	14,090	1,672
United Kingdom					
1960	23,660	1,118	8,517	11,642	2,383
1970	24,381	784	8,465	13,066	2,066
1980	25,004	654	7,081	15,291	1,978
1990	26,620	568	5,384	18,544	2,124
Germany††					
1960	25,877	3,567	8,901	10,405	3,004
1970	26,107	2,218	10,305	11,183	2,401
1980	26,486	1,373	8,998	13,740	2,375
1990	27,961	966	8,843	16,102	2,050
Italy					
1960	20,064	6,514	4,813	6,696	2,041
1970	19,083	3,839	5,293	7,656	2,293
1980	20,195	2,870	5,433	9,631	2,261
1990†††	21,074	1,876	4,726	12,357	2,023

\* Consists of agriculture, forestry, hunting and fishing.

\*\* Consists of transportation, communication, public utilities, trade, finance, public administration, private household services and miscellaneous services.

\*\*\* Consists of mining and construction.

† The earliest available employment figures are for 1965.

†† Refers to the Federal Republic of Germany before unification.

††† Manufacturing and other industry data are for 1989; therefore, the sum of the industry groups does not equal total employment.



## Services

Employment in services has increased steadily since 1960; by 1990 it had doubled for all ten countries combined. As a result, the service sector's share of total employment in these countries grew from approximately half in 1960 to two-thirds by 1990.

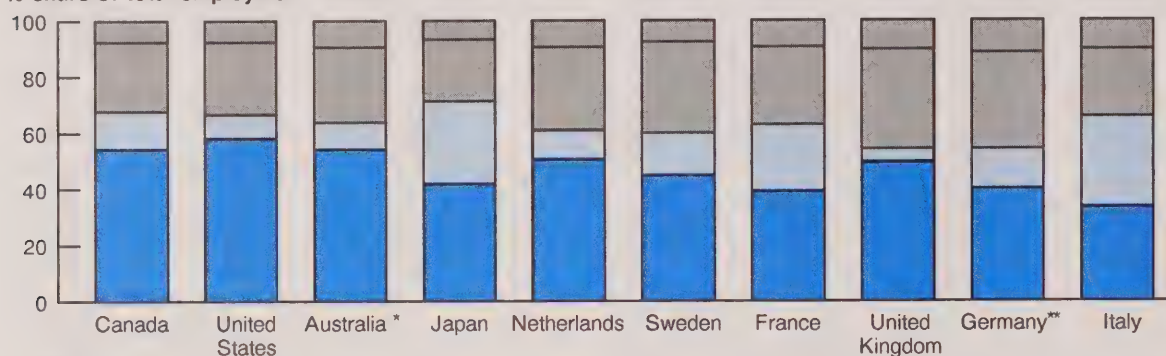
In general, the largest increases were observed for countries which reported relatively small service sector employment

shares in 1960. Principal among this group were Italy and France, whose employment shares rose by about 26 percentage points between 1960 and 1990. Conversely, countries reporting the largest service employment shares in 1960, such as Canada (55%) and the United States (58%), reported lower growth over the same period. However, in 1990, services still accounted for the highest proportion of employment in both of these countries (72% of total employment).

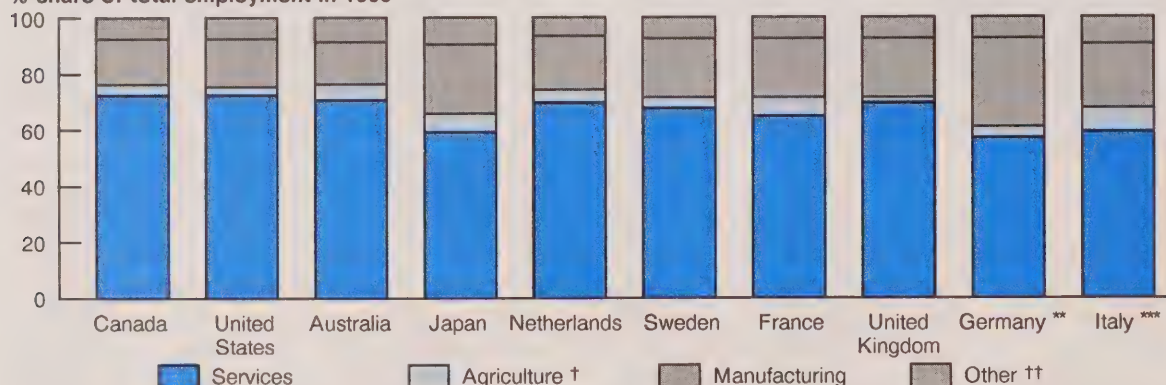
Chart B

**All countries reported employment shifts from agriculture and manufacturing into services.**

% share of total employment in 1960



% share of total employment in 1990



Source: Bureau of Labor Statistics, U.S. Department of Labor

\* Percentage share of total employment in 1965.

\*\* Refers to the Federal Republic of Germany before unification.

\*\*\* Manufacturing and other industry data are for 1989.

† Consists of agriculture, forestry, hunting and fishing.

†† Consists of mining and construction.



A number of explanations may account for the rapid growth in service employment. These include relatively slow growth in labour productivity in the service industries, as well as increases in both intermediate and final consumption demands for services. For example, the demand for social and household service workers has risen, in part, as a result of the "vacuum" created by the increasing number of women who work outside the home. Also, the upward trend in service employment reflects an increased propensity by firms to "contract-out" services which were formerly produced in-house.<sup>4</sup>

## Conclusion

In 1960, the relative employment shares in each industry group varied widely across the ten countries. However, changes in employment levels by industry over the period 1960-90 have resulted in a more uniform distribution of employment by industry grouping across the ten countries (Chart B). As well, employment shares by industry are now ranked consistently by size in the following order: services, manufacturing, "other" industries and agriculture. □

## Notes

<sup>1</sup> The ten countries consist of Canada, the United States, Australia, Japan, the Netherlands, Sweden, France, the United Kingdom, Germany and Italy.

<sup>2</sup> In this article, Germany refers to the Federal Republic of Germany before unification.

<sup>3</sup> Japan's share of total employment in manufacturing rose from 22% in 1960 to 24% in 1990.

<sup>4</sup> In Canada, substantial growth in both health and social services, as well as services to business, lend credence to this argument. For example, health and social service employment almost doubled between 1976 and 1992, rising from 693,000 to 1,223,000. Similarly, employment in services to business more than doubled over the same period to 676,000 in 1992.

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# Dian Cohen on the new economy

Interview by Penny Basset

**D**ian Cohen is an economics communication consultant who has written and commented extensively on finance and business issues. She has authored several books and written columns and articles for many newspapers and magazines including the *Financial Post* and *Maclean's*. She also has considerable experience as an economics and business commentator on radio and television. Ms. Cohen has held a number of advisory positions and directorships. She has lectured for Ryerson Polytechnical Institute and Concordia University and has received several writing awards.

This interview explores some of the issues raised by Dian Cohen's latest book *No Small Change*, co-authored with Guy Stanley and published by Macmillan Canada. *No Small Change* examines the evolution of Canada's industrial economy into an information economy, which revolves around the processing and distribution of knowledge, rather than natural resources.

It also looks at this country's transition to a global economy. Canadian institutions, like those of other nations, developed around the idea that a national economic region could be controlled. But today's world economy has made this notion obsolete. On average, provinces trade more goods with



Photo: David Street Photographer Inc.

other countries than with each other. And exports are dependent on a number of external factors over which Canadians have little, if any, control. Canada has recently suffered through two serious recessions, which have been characterized by plant closures, bankruptcies and high unemployment. Despite these problems, however, the author feels that Canada can re-establish itself as a world-leading economy, if it succeeds in making it through the transition period.

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**Q.** *Dian, it would be useful to our readers if you could summarize what your new book *No Small Change* is about.*

**A.** What we have tried to show with *No Small Change* is how to take a moderately competitive, low-growth, high-cost country and turn it into a world leader. Canada has a tremendous institutional drag.<sup>1</sup> Institutional drag is preventing this nation from being a world leader. It is not impossible for Canada to get a big jump on the rest of the world, because we have a lot of world class intelligence in the country. But we Canadians have to change our mind-set from what my co-author and I call our "culture of refusal" to an "embrace of change." The opportunities for Canadians now are unprecedented. We have never had such an ability to have good, comfortable lives.

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**It's a book about change – the impact of technological changes in the last quarter of the twentieth century, how our values have changed, what today's successful companies and entrepreneurs are doing and how their decisions reflect the new economy and push it forward.<sup>2</sup>**

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**Q.** *In your book you talk about the transition to an information economy. Can you explain what you mean by this?*

**A.** We all grew up in an economy where we created wealth by finding, processing, and distributing physical things. Value was added at every stage of production. The information economy does that with information. Collecting, analyzing, evaluating, manipulating, and distributing information is a wealth-creation process. Even in the manufacture of tangible goods, more and more of the value added is on the information side.

**Q.** *Can you give me an example of this phenomenon?*

**A.** An easy one to understand is what creates the value of a car. Twenty-five years ago it was the addition of all the physical parts: the steel, the copper, the glass. Now it is the information component in the design, microchips, and marketing that represents most of the value. That reflects the transition from an industrial economy to an information economy.

In that example, you can see the differences between industrial and information economies, but there are fundamental differences for people as well.

**Q.** *How will the information economy affect people?*

**A.** To add value to information, people need to know how to process information: how to find it, analyze it, and manipulate it. We need an education system that teaches people how to think creatively. Our society has the concept of lifelong learning, but the institutional setting, the ability to actually do it easily doesn't yet exist.



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**... in a knowledge-based economy, people have again become assets. The more they know, the more valuable they are. When a really valuable employee leaves, the value of the company that loses him measurably declines.**

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**Q.** *Can you elaborate on the impact the information economy is having on work?*

**A.** The several hundred thousand manufacturing jobs that Canada has lost in the last couple of years is one indication of how much the world of work has changed. Those jobs will probably not come back. That is number one.

The second thing is that speed is essential in getting a product out to market. You cannot have huge layers of middle managers. This is what is behind the flattening of the management curve. If you are not adding value, you are out of business. Communicating all the way up a long chain to the CEO before a decision is made cannot be done any more because it takes too long and simply adds to direct costs. And you do not have to do it because a CEO with a computer at his or her desk has access to all kinds of information about the corporation.

We have changed what the blue-collar workers do and how many are needed to do it. We have changed what middle managers are doing and how many are needed to do that. In addition, we are creating a society where it is much easier to be in business for oneself, because as the big structures become global they shed a lot of tasks they cannot do as efficiently as others. They then have a

need for smaller companies to provide them with the services they are no longer performing themselves. And those smaller companies are flexible. It is easier for them to move quickly to fill a demand. What that really means is that we are going to evolve into workers who can no longer be marginalized because everybody will be a professional in the sense that the professional does not need the company he or she works for. You carry your skills with you, and you go where the demand is. More than that, even now, the individual with a computer and a modem has as easy access to information as big government and big corporations.

I was just in Winnipeg, and as I was coming from the airport I saw a huge sign with a picture of a sofa. It said: "Pick your style. Pick your material. 48-hour delivery." This sort of thing is called agile manufacturing. In my book, I quoted the head of Texas Instruments talking about agile manufacturing, which describes the next generation of work. This is what he said:

"Such service will be possible thanks to highly flexible robotic assembly lines that can be swiftly reprogrammed for new tasks. To speed production and aid cooperation, factories will be linked by a broadband communications clearinghouse ... which will enable them to locate suppliers and designers, and to share information, all at a keystroke.

The network will also facilitate the rapid formation of "virtual companies" – joint ventures among multiple corporate units working cooperatively to seize a market opportunity. Management will be decentralized – "self-managed work teams" will be the rule, not the exception ... and information will flow freely among R&D, shop floor and boardroom."<sup>3</sup>

All I am doing is projecting that concept into the future. Will it work? Sure it will work. People are creative and they will learn how to do what they have to do.

**Q.** *What are the responsibilities of labour and management during this adjustment period?*

**A.** Labour unions in the industrial economy protected workers against companies that were becoming bigger and bigger. But that whole concept is inappropriate now because in changing the structure of work and the organization of work we now have work teams; we have people able to do a lot of different jobs. We want to encourage flexibility – not narrow specialization. People are going to want a lot of career options, and want to know how to do a lot of things. How do you deal with the job descriptions, job titles and constraints that labour unions have spent a lifetime protecting?

On the side of management, I do not think our business elites have served us well. They certainly do not put the sort of money into training that our global competitors do. They are less than transparent about how their businesses are being run. I do not think our business elite have been very visionary.

The animosity that is felt on both sides of that bargaining table is caused by both sides. We need a team effort to change these things. There are some examples of that team effort in the steel sector and in the western forest-products sector. Management and labour together have understood the nature of the problem. Together they have said, "We have a relationship around the bargaining table, but we have a problem that is bigger than the bargaining table. Let's form another association so that we can deal with our mutual problems." In fact what they did was form one organization that, for management, dealt with the trade problem

and, for labour, dealt with the downsizing problem.

They approached the government together and said: "The old institutions are not serving our purposes. We need a new structure. Can we do something experimental in our area?" Government agreed, once it was faced with both sides, instead of labour alone or management alone. Government provided money for them to evaluate skills, make suggestions for job training, put training in place, and find other outlets for their workers. I believe governments respond to demands. The demands are slow in coming because people think they are on different sides of the fence, and because a lot of these things become politicized when they should not be.

In addition, we all, labour and management, have to encourage a mindset of entrepreneurialism. The only secure job is one which adds value – so everyone, even employees, have to think of themselves as business people.

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**... our investment patterns will have to change to take into account the changing global environment. We overinvest in natural resources. We underinvest in people and ideas, especially in skills upgrading and technology.**

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**Q.** *Would you say the North American Free Trade Agreement is going to have an impact on the movement towards the information economy?*



**A.** Absolutely yes, but I would also say that the NAFTA, the FTA, all of these things are catch-up. These agreements are facilitators. Putting in place new rules is something that has happened almost after the fact that we already have free trade – in goods anyway. Information and capital flow around the world without having to stop at borders. All of these things are happening now. But these agreements are facilitating the movement.

We can already see that a lot of the heavy manufacturing jobs are being exported. This is an indication of how much Canada needs to move into knowledge-based industries. The idea that we are competing against people who make a dollar an hour is ludicrous. It is productivity that is important, and the productivity of people in some countries is really low. What we want to do is create a higher value-added product, which we are able to do because we have more of the infrastructure than less advanced regions.

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**... we're witnessing a shift from manufacture to services – but services that have information imbedded in them and allow them to behave like goods. They can be manufactured, stored, shipped, traded – except that the cost of duplication is trivial, and economies of scope are more important than the economies of scale.**

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How can we change things? If we had some agreements in place that dealt with intellectual property and with technology transfer, these would be much more inclu-

sive than trade agreements have been in the past. We have concentrated on trading goods because that was dominant in the industrial economy; it is not dominant any more. Ten times more money is flowing around the world than is accounted for by goods. But we do not have any rules in place to deal with that.

And none of these agreements take into account environmental degradation. We are exporting manufacturing activities into countries that do not have the infrastructure and the legislation to look after the environment. What we should be doing is ensuring that a lot of the dirty stuff stays in areas where it can be managed properly, and letting the Third World have a lot of the clean, knowledge-based industries. That is an intellectual property problem and a technology transfer problem.

**Q.** *How do you think Statistics Canada should be changing to meet the needs of the new information economy?*

**A.** I am mindful of the fact that Stats Can is among the best in the world. But I worry about the numbers and the indicators and the use to which they are put. The numbers collected are framed in Keynesian terms, and what advantage is this if it is true that there are no longer national economies? What are we doing in terms of understanding global movements? We need to begin by understanding what an information economy is, and how numbers should be collected for that. I also think there is a need for some sustainable development measures. I would like Stats Can to rethink its mandate, and its data collection priorities. □

The interviewer wishes to thank Lee Grenon of the Labour and Household Surveys Analysis Division for his contribution in the preparation of this material.



## Notes

<sup>1</sup> Institutional drag refers to institutions, customs and rules that have their origins in an industrial age and the values of a bygone era. The authors feel that this "drag" is limiting our choices as we move into an information economy and global society.

<sup>2</sup> This and subsequent excerpts were taken from the book *No Small Change* (Cohen and Stanley, 1993). See Preface and pp. 61, 64 and 100, respectively.

<sup>3</sup> See Cohen and Stanley (1993), p. 201.

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## Back issues : *Did you miss something?*

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## Perspectives on labour and income

*The quarterly for labour market information*

# School, work, and dropping out

Deborah Sunter

**D**oes working while attending high school increase the risk of dropping out? Family background, peer culture, school experience and academic performance may all play a strong role in determining school outcome. But there is concern among educators that student employment may also be associated with an increased likelihood of dropping out, before a certificate or diploma is earned. In 1976, 37% of high school students aged 17 to 19 were employed. By 1991, almost 50% of students were employed on average each month, and an even greater proportion – about two-thirds – worked at some time during the school year.

Student employment has not always been viewed as a potential limitation to academic success. During the 1970s, educators focused on the transition from school to work and the relevance of the school curriculum to the labour market. Part-time employment was perceived as a positive experience for students since it provided valuable job exposure and eased the transition between school and work. Students with jobs were also applauded for their demonstration of initiative and industrious behaviour (Lawton, 1992).

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Since the early 1980s, however, the need for a highly skilled labour force has focused the concerns of educators on the problem of student retention and formal skill development. Graduation from high school is now seen as a minimal educational requirement. Therefore, the possibility that student employment is associated with a greater risk of dropping out is a growing concern.

Part of the ambivalence about the relationship between work and school arises from contradictory research results. For example, one study reported that hours worked during the school year were an important indicator of dropping out, with the risk of non-completion increasing as hours of work increased (Marsh, 1991). But an earlier study found that students with jobs of moderate intensity (less than 20 hours per week) were more likely to remain in school than those who were not employed (D'Amico, 1984).

The 1991 School Leavers Survey explores the effects of work during the school year on the likelihood of graduating among former Canadian high school students (see *The School Leavers Survey*).

## Profile of a dropout

Of the 895,000 18 to 20 year-olds who were no longer attending high school in the spring of 1991, 79% had graduated with a



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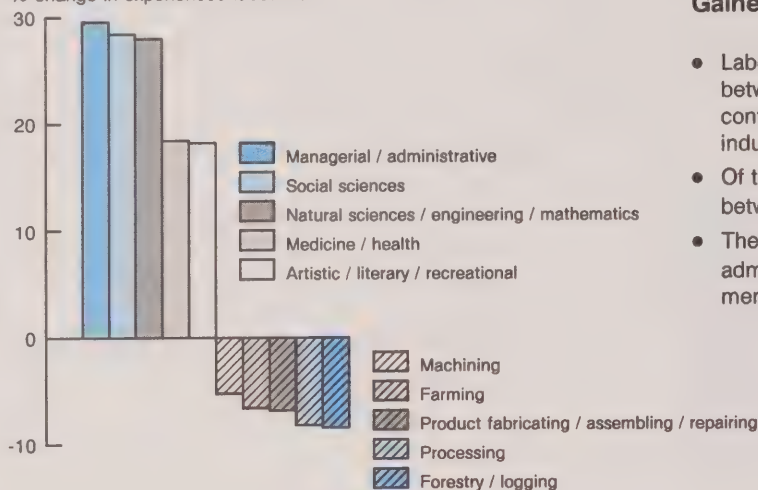
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% change in experienced labour force

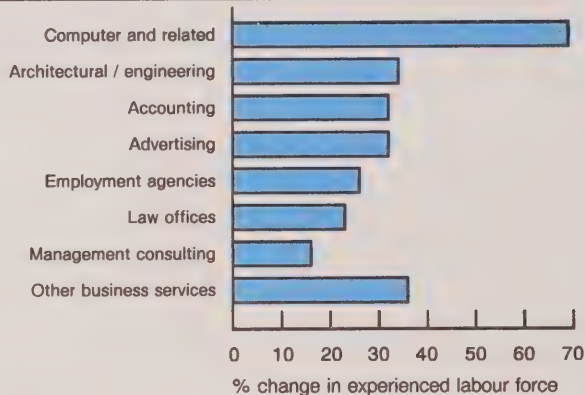


### Gainers and losers

- Labour force growth and decline by occupation between 1986 and 1991 reflected the continuing shift from goods to service industries.
- Of the 22 major occupation groups, 8 declined between 1986 and 1991.
- The number of women in managerial and administrative occupations increased by 55%, men by 18%.

### Growth in business services

- Of the 18 industry divisions, business services recorded the highest growth (36%) between 1986 and 1991.
- All eight business service industries grew by more than 15%.



### Concepts and definitions

**Experienced labour force** refers to persons who were employed during the week prior to June 4, 1991 or, if unemployed, had worked at some time since January 1, 1990.

**Weeks worked in 1990** refers to the number of weeks in 1990 during which a person was employed, even if only for a few hours. It includes paid vacation, sick leave with pay, and paid absences while on training courses.

**Full-year, full-time workers** refers to persons who worked 49 to 52 weeks, mostly full time. Full time is considered to be 30 hours or more per week.

The **occupation** data are based on the 1980 *Standard occupational classification* (Catalogue No. 12-565E). This classification is composed of 22 major occupational groups which contain 514 detailed occupations.

The **industry** data are based on the 1980 *Standard industrial classification* (Catalogue No. 12-501E). There are 18 industry divisions which are subdivided into 296 detailed industries.

The following census publications contain labour market data: *Labour force activity* (Catalogue No. 93-324), *Labour force activity of women by presence of children* (Catalogue No. 93-325), *Industry and class of worker* (Catalogue No. 93-326) and *Occupation* (Catalogue No. 93-327).

For more information on these concepts and definitions, refer to the 1991 *Census dictionary* (Catalogue No. 92-301E) or contact Patricia Grainger at (613)951-6890.

### The School Leavers Survey

The School Leavers Survey was conducted between April and June 1991 by Statistics Canada on behalf of Employment and Immigration Canada. A sample of 9,460 persons aged 18 to 20 were contacted and asked whether they were attending high school, had graduated, or had left school before graduating. The survey design allowed for an over-sampling of the latter group, in order that their characteristics could be more fully described. Those continuing in high school (1,476) were excluded from the analysis presented in this article. Thus, the sample size based on dropouts and graduates was 7,984.

Although these young people were no longer attending high school, they may have been attending some other type of educational institution such as a trade school, community college or university at the time of the interview.

The dropout rates used in this article were based on self-reported status. They were calculated by dividing the number of youths aged 18 to 20 who as of April 1991 had left school without graduating (dropouts), by the total number of youths 18 to 20 no longer attending high school at that time (graduates plus dropouts). While these rates are useful for analytic purposes, they should not be confused with those generally used to estimate the incidence of high school non-completion (see *Trends in dropout rates*).

certificate or diploma, while 21% were non-completers.<sup>1</sup> Non-completion was considerably more common among men, 24% of whom had dropped out compared with only 16% of women. The average age at leaving school was 17 for both non-completers and graduates. But, 39% of those who failed to complete high school were 16 years of age or less when they dropped out (Table 1).

Academic performance, school experience and school completion all appear to be closely related. Dropouts were more likely to have experienced difficulty with core subjects such as mathematics and English or French,<sup>2</sup> and were less likely to have had an A or B average in their final high school term. However, most dropouts appear to have performed well enough academically to have continued in school – the majority did not report difficulty with core subjects, and 86% had a C average or higher.

Non-completers were far more likely than graduates to have had negative school experiences such as a lack of enjoyment or interest, and they were less likely to have participated in class or in extracurricular activities. They were also five times more likely than graduates to have failed a grade in elementary school.

Parents and family situation also seem to have a noticeable impact on the probability of high school non-completion. A larger proportion of dropouts than graduates had mothers who had not completed high school. Also, more male dropouts than male graduates had fathers who were not high school graduates. Moreover, even though most graduates and dropouts lived with both parents during their final school year, the incidence of single-parent families was twice as high among non-completers.

Recent studies, in both the United States and Canada (Radwanski, 1987), suggest that students whose family socioeconomic status is low appear to be at greater risk of dropping out. Such students may get less encouragement to continue in school as their families have lower academic expectations; they may also be under pressure to help support the family.

### Work and dropping out

The likelihood of high school non-completion also appears to be influenced by the number of hours a student is employed. Working moderate hours (1 to 19 hours per week) was associated with low dropout rates for both young men and women, lower, in fact, than the dropout rates of those without jobs. However, the effect of working many hours (20 or more hours per week) varied by sex. Among men, such intensive work involvement was associated with a greatly increased dropout rate. But the dropout rate for women who worked 20 or more hours per week was lower than the rate for those without a job (Chart A).

Table 1  
Selected characteristics of high school graduates and dropouts by sex, 1991\*

	Total		Men		Women	
	Graduates	Dropouts	Graduates	Dropouts	Graduates	Dropouts
<b>All 18 to 20 year-olds not in high school ('000)</b>	<b>711</b>	<b>184</b>	<b>334</b>	<b>114</b>	<b>377</b>	<b>70</b>
			%			
<b>Academic performance**</b>						
Difficulty with mathematics	39	48	34	43	43	56
Difficulty with English/French	17	37	23	43	12	26
Average in last school term:						
A	30	5	27	--	33	--
B	47	32	46	30	48	34
C	19	40	23	42	15	36
D/F	1	13	--	14	--	10
<b>School experience</b>						
Did not enjoy school	10	41	11	44	9	38
Not satisfied with variety of courses	19	25	18	26	19	25
Most courses were not useful	20	29	21	30	20	26
Participated less than most in class	10	23	10	23	9	23
Most classes were not interesting	21	41	25	46	18	33
Did not get along with most teachers	2	15	2	17	2	11
Did not participate in extracurricular activities	28	50	24	48	32	52
Did not "fit in" at school	5	14	6	14	4	14
Skipped classes during last year at school	59	75	62	78	56	70
<b>Past school performance</b>						
Failed a grade in elementary school	8	36	11	41	5	27
<b>Living arrangements at time of leaving school</b>						
Lived with both parents	83	61	85	65	82	56
Lived with one parent	12	25	12	25	13	24
Did not live with parent(s)	5	13	4	9	5	20
<b>Parents' education</b>						
Mother did not graduate from high school	28	35	24	32	31	39
Father did not graduate from high school	28	29	25	30	30	27
<b>Age at leaving high school</b>						
16 years or less	10	39	9	37	12	41
17 years	43	27	41	26	44	30
18 years	36	25	36	27	35	21
19 or 20 years	12	9	14	10	9	8

Source: School Leavers Survey

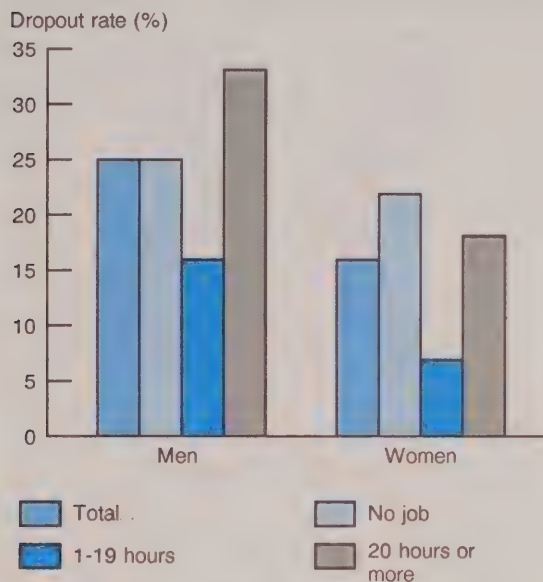
\* Includes some 15,000 elementary school dropouts.

\*\* Excludes elementary school dropouts.



Chart A

Among 18-20 year-olds, dropout rates in 1991 were lowest for those with moderate work involvement.



Source: School Leavers Survey

## How does work affect the risk of dropping out?

Given the complex set of factors that interact to determine the likelihood of non-completion, questions arise about the effect of work on the risk of dropping out. For example, does the low risk of non-completion among students working moderate hours indicate that employment with reasonable time demands is conducive to staying in school? Or does this low risk result from a process of self-selection whereby more successful students tend to seek work with shorter work hours, while poorer students work long hours or not at all? On the other hand, is intensive work involvement merely an indicator of a process of dropping out that was set in motion by other factors such as

family background, school experiences and early academic failure? Or is intensive involvement in work a risk factor on its own, especially among men?

The relationship between moderate work involvement and a low risk of non-completion was remarkably persistent for both sexes, regardless of which background or performance variable was taken into account (Table 2).

The dropout rate was lowest among male and female students working moderate hours regardless of academic performance or school experience. This pattern suggests that there may be some special benefit associated with moderate work involvement, over and above the effects of any process of self-selection whereby more successful students tend to choose work with moderate time demands.

Among women, working long hours was generally associated with a lower or equal risk of dropping out than not working at all. Among men, the effect of long work hours on school outcome appears to be influenced by educational experiences and family background. For men who had an average of C or below, or did not enjoy school, or failed a grade in elementary school, or did not participate in extracurricular activities, or had a parent who did not graduate from high school, there was a similar or higher risk attached to not having a job than having a job with long work hours.

## The impact of hours worked, "all else being equal"

In order to assess the independent impact of work involvement on school completion, a logistic regression, in which the values of all other relevant characteristics were held constant simultaneously, was run separately for men and women (see *Estimating the probability of dropping out*). This technique measures the probable impact of work on school completion, regardless of other char-

Table 2

**Dropout rates of former high school students by work involvement, 1991\***

	Men				Women			
	Total	No job	1-19 hours	20 hours or more	Total	No job	1-19 hours	20 hours or more
	%							
<b>Total</b>	<b>25</b>	<b>25</b>	<b>16</b>	<b>33</b>	<b>16</b>	<b>22</b>	<b>7</b>	<b>18</b>
No difficulty with mathematics**	21	18	13	31	11	15	--	18
Difficulty with mathematics**	28	30	17	35	18	26	11	18
No difficulty with English/French**	19	16	10	28	12	16	6	16
Difficulty with English/French**	37	42	25	42	27	41	--	25
Average in last school term:**								
A	5	--	--	--	--	--	--	--
B	17	17	11	23	11	11	7	15
C/D/F	42	45	32	44	33	46	18	32
Did not skip classes during last year at school	16	17	--	23	11	18	--	--
Skipped classes during last year at school	30	30	20	36	19	26	8	22
Enjoyed school	17	16	10	25	11	16	6	13
Did not enjoy school	58	63	49	59	44	59	--	37
Did not fail a grade in elementary school	19	16	11	26	12	17	6	16
Failed a grade in elementary school	56	69	39	57	51	66	--	36
Average or greater participation in class	23	21	14	30	14	19	6	16
Less than average participation in class	44	47	29	51	32	47	--	31
Participated in extracurricular activities	19	15	10	29	11	15	6	15
Did not participate in extracurricular activities	41	44	32	42	23	34	10	23
Lived with both parents	21	21	13	28	11	15	6	14
Lived with one parent or no parents	43	43	30	49	31	43	--	30
Mother graduated from high school	19	15	13	25	10	15	--	--
Mother did not graduate from high school	28	30	--	30	20	30	--	21
Father graduated from high school	16	11	11	23	11	--	--	--
Father did not graduate from high school	19	--	--	--	13	--	--	--

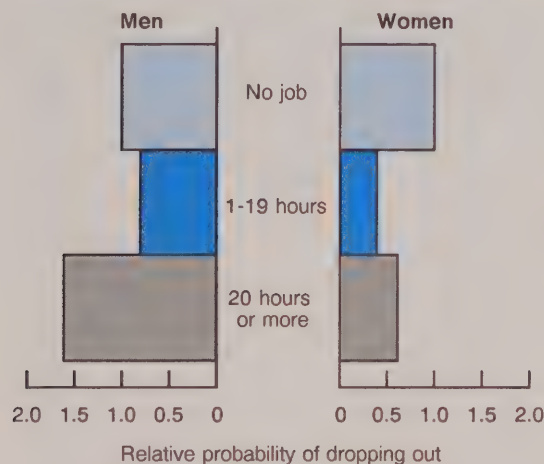
Source: School Leavers Survey

\* Includes some 15,000 elementary school dropouts.

\*\* Excludes elementary school dropouts.

Chart B

In 1991, students working less than 20 hours per week were least likely to drop out.



Source: School Leavers Survey

Note: This chart represents the probability of high school students with different levels of work involvement dropping out relative to that of students with no jobs (see Estimating the probability of dropping out).

acteristics, such as whether the student came from Ontario or elsewhere, did or did not fail a grade in elementary school, enjoyed or did not enjoy school, had or did not have a parent with a high school education, and so on.

The results of this analysis provide further confirmation that employment with moderate time demands tends to be associated with a reduced risk of dropping out, other factors being equal (Chart B). Moderate work hours were associated with a 60% lower risk of non-completion than was no employment among female students, and a 20% reduction of risk among male students. Work weeks of 20 hours or more were also associated with a 40% lower dropout risk for women. But the risk of dropping out was 60% higher for men with jobs that demanded long hours than among those who were not employed.

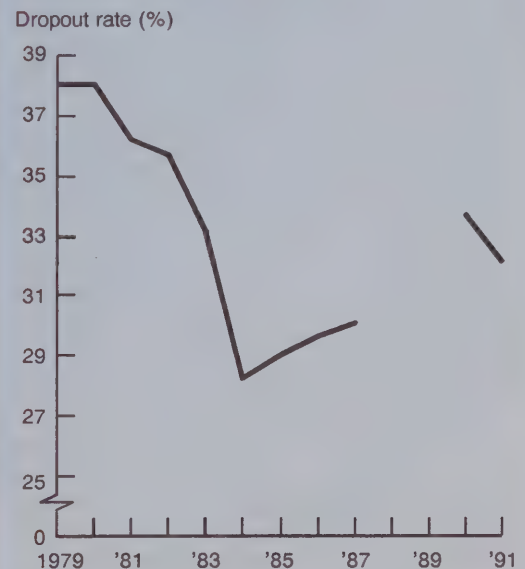
## Trends in dropout rates

There are a number of methods used to calculate dropout rates, each with its own merit and problems. For example, the "apparent" dropout rate (or "cohort" dropout rate) is a commonly used measure, and is estimated by comparing the number of students in grade 9 to the number of high school graduates 3 and 4 years later. These data are available from school records that have been provided to Statistics Canada by the provincial governments for many years. They are, therefore, useful in the analysis of trends in dropout rates.

According to this cohort estimation method, the dropout rate declined substantially between the late 1970s and the early 1980s (see chart). In 1985 the trend reversed, rising to about 34% in 1990 and then falling to 32% in 1991. (Data are not available for 1988 and 1989.)

These rates are considerably higher than those presented in this article. Part of the difference may be due to an overestimation of the apparent dropout rate because this method does not allow for students who take longer than three or four years to graduate (Grade 12, or Secondary V in Quebec).

## Cohort dropout rates have been fluctuating in recent years.\*



Source: Education, Culture and Tourism Division

\* Data are not available for 1988 and 1989.



## Estimating the probability of dropping out

Clearly, dropping out is seldom the consequence of any one isolated factor. To explain the behaviour of one variable (the dependent variable), several other variables (known as explanatory variables) are used in an analytical model. However, in order to isolate the effect of one explanatory variable (for example, hours worked), it is necessary to "control for" the effects of the remaining variables. Controlling for a variable requires holding the value of that variable constant. In order to assess the impact of the explanatory variable (usual weekly hours worked) on the dependent variable (dropout rate), the data were statistically adjusted so that the differences in the estimated effects of each variable in the model (except usual weekly hours worked) were nullified. Similarly, the impact of each of the other explanatory variables was determined while controlling for the effects of all other explanatory variables.

Logistic regression analysis is used here in order to assess the impact of hours worked on the probability of dropping out, independent of the

influences of other factors. The results of this statistical technique can be expressed in terms of the relative probability of dropping out. That is, this technique measures the likelihood that students in one category will drop out compared with that of students in the reference category (all other factors being equal). The reference category always takes on the value of 1. For example, men who worked 20 or more hours a week had a 1.6 to 1, or 60% greater, probability of dropping out than those without a job, while women who worked long hours had a 0.6 to 1, or a 40% lower, probability of dropping out than their non-working peers.

The validity of this technique depends on the inclusion of all important explanatory variables in the model. In practice, we are limited to the information available from the School Leavers Survey. In addition to selected demographic, background, school performance, and school experience variables, the province of study was included in the regression model in order to account for differences in provincial educational systems, and to act as a proxy for local labour market conditions. Because of the striking differences in dropout behaviour between men and women, logistic regressions were run separately by sex.

## The relative probability of dropping out

	Men	Women
Average or greater participation in class	1.0	1.0
Less than average participation in class	1.3	1.4
Participated in extracurricular activities	1.0	1.0
Did not participate in extracurricular activities	1.3	1.1
Average in last school term:		
A	1.0	1.0
B	1.7*	1.9*
C	4.3**	4.9**
D/F	18.4**	32.5**
Don't know/not stated	8.4**	4.1**
No difficulty with English/French	1.0	1.0
Difficulty with English/French	1.2	0.9
No difficulty with mathematics	1.0	1.0
Difficulty with mathematics	0.7*	0.8
Enjoyed school	1.0	1.0
Did not enjoy school	3.3**	3.4**
Did not fail a grade in elementary school	1.0	1.0
Failed a grade in elementary school	3.2**	5.0**
Father present in home and a high school graduate	1.0	1.0
Father present in home but not a high school graduate	1.3	1.3
Father present, education level unknown/not stated	2.0*	2.3
No father in home	3.1**	3.8**

**The relative probability of dropping out – concluded**

	Men	Women
<b>Mother present in home and a high school graduate</b>	1.0	1.0
Mother present in home but not a high school graduate	1.6 *	2.2 **
Mother present, education level unknown/not stated	2.1 **	2.2 *
No mother in home	1.5	2.1 *
<b>Got along with most teachers</b>	1.0	1.0
Did not get along with most teachers	4.7 **	1.9
<b>Went to school in Ontario</b>	1.0	1.0
Newfoundland	1.4	1.0
Prince Edward Island	1.1	1.2
Nova Scotia	1.6	0.9
New Brunswick	0.6	0.8
Quebec	1.5	1.3
Manitoba	0.8	1.0
Saskatchewan	0.9	0.6
Alberta	0.9	0.6
British Columbia	0.6	0.8
<b>Age at school leaving:</b>		
15 or more in Quebec, 16 or more in other provinces	1.0	1.0
Less than 15 in Quebec, less than 16 in other provinces	13.2 **	13.9 **
<b>Did not work during school</b>	1.0	1.0
Worked 1 to 19 hours per week	0.8	0.4 **
Worked 20 or more hours per week	1.6 **	0.6 *

Source: School Leavers Survey

\* Statistically significant at the 0.05 level.

\*\* Statistically significant at the 0.01 level.

## Conclusion

The effect of work on school completion appears to be complex, and significantly different between men and women. Moderate work hours are associated with a reduced risk of dropping out for both sexes, even when other factors such as academic performance, absenteeism, school experience, parents' education, and province of education are taken into account.

Intensive work involvement appears to substantially increase the risk of dropping out among young men, while lack of employment is associated with the highest risk of dropping out among women.

These findings suggest that the combination of work and school should not, in itself, be cause for major concern. There appear to be aspects of work that reinforce perseverance and success in school. Limited involvement in work may serve to increase a student's self-esteem, and foster success-oriented behaviours such as punctuality, initiative, and hard work. In addition, most working students have low-skill, low-paying jobs that hold little promise for the future. Therefore, their work experiences may convince many that high school graduation is essential to gaining access to more interesting employment with greater earnings potential.

It appears, however, that intensive work involvement increases the risk of dropping out among young men. Long hours on the job may reinforce the dropout process for this group by providing tangible and immediate rewards that outweigh the more abstract and long-term benefits of graduation. Such hours may also reflect a growing disinterest in, and detachment from, school.

The School Leavers Survey offers the first opportunity at the national level to examine the relationship between work and high school non-completion in the context of other related factors. However, a number of questions cannot be addressed by this survey's data. For example, why are there such striking differences in the effect of

intensive work involvement on dropout rates between men and women? What is the mechanism through which moderate work hours are associated with a reduced risk of non-completion? And is the duration of employment (the number of weeks worked during the school year) as critical a variable as is the intensity of work (usual weekly hours on the job)? The long-term effects of dropping out are so important for both the individual and society, that further research in this area is warranted. □

The author wishes to thank Georgia Roberts from Business Survey Methods Division for her valuable methodological assistance.

## Notes

<sup>1</sup> Graduates and dropouts together accounted for 77% of the 1,136,000 persons aged 18 to 20 years in Canada in April 1991. The remaining 241,000 (132,000 men and 109,000 women) were still in high school at the time of the survey; they were excluded from the analysis because their completion status was not yet known.

<sup>2</sup> Students who were educated in English were asked whether or not they had difficulty with English, and those educated in French were asked about difficulty with French.

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# Investment income of Canadians

Jason Siroonian

**I**n 1990, more than 9.5 million Canadians, or just over one-half of all taxfilers, reported interest, dividends or both. The total amount they obtained from these sources surpassed \$39 billion and accounted for 13% of their total income.

Investments commonly produce a stream of income. For example, Regular Interest Canada Savings Bonds dispense interest annually to the owner over the lifetime of the bonds. As well, holders of corporate stocks generally receive dividends.

In addition, the value of some investments may increase or decrease over time. For these investments, the difference between the purchase and selling prices results in what is known as a capital gain or loss. The following analysis, however, does not consider capital gains or losses but focuses instead on interest and dividends, which are referred to as investment income (See *Definitions and data source*).

## Interest and dividends in the 1980s

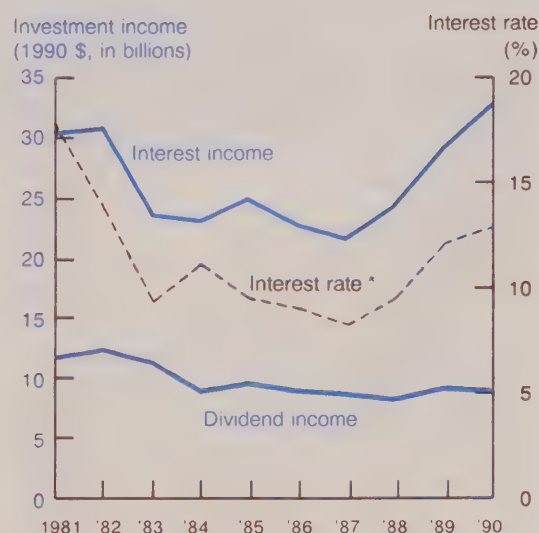
During the 1980s, reported interest income was related to interest rates (Chart A). In 1981 and 1982, when interest rates were exceptionally high, investors received more

interest income than they did in the mid-1980s, when interest rates were comparably lower. After 1987, in tandem with rising interest rates, interest income steadily climbed till the end of the decade.

Similar to interest income, dividends reported during the 1980s were – for the most part – also associated with interest rates.

Chart A

**For most of the 1980s, interest and dividend income generally moved in tandem.**



Source: Small Area and Administrative Data Division  
\* 90-day treasury bill rate, annual average

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## Older Canadians and investment income

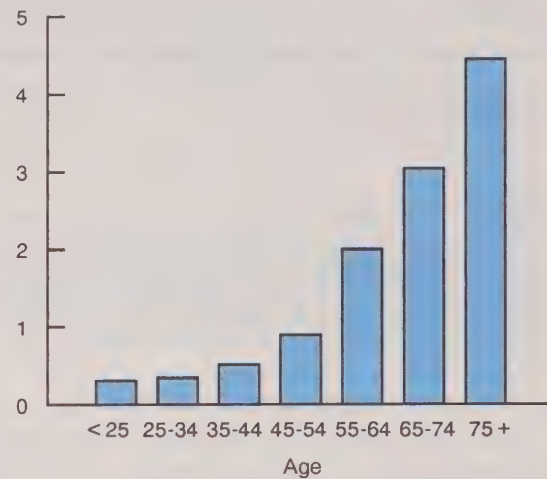
In 1990, Canadians 75 years and over had the highest median investment income (\$4,450) of all age groups (Chart B). This income was almost five times that of 45 to 54 year-olds (\$900), and nearly fifteen times more than the median for individuals under 25 (\$300). As a result, taxfilers 75 and over received 20% of all investment income, although they accounted for only 9% of recipients.

Both the median investment income and the proportion of taxfilers who received this type of income increased with age (Table 1). In 1990, 81% of taxfilers 75 and over had investment income compared with 27% of taxfilers under 25.

Chart B

**Investment income increased with age in 1990.**

Median investment income  
(\$ '000)



Source: Small Area and Administrative Data Division  
Note: The population includes only taxfilers reporting investment income.

Table 1

**Taxfilers reporting interest and dividends, by age and income, 1990**

	All taxfilers	Taxfilers reporting investment income			
		Total	Proportion of all taxfilers	Proportion reporting interest	Proportion reporting dividends
	'000			%	
<b>Total</b>	<b>18,450</b>	<b>9,511</b>	<b>52</b>	<b>98</b>	<b>15</b>
<b>Age</b>					
Less than 25 years	2,717	742	27	98	6
25-34 years	4,600	1,784	39	97	11
35-44 years	3,992	2,003	50	97	16
45-54 years	2,579	1,561	61	98	19
55-64 years	1,991	1,397	70	99	19
65-74 years	1,563	1,209	77	100	16
75 years and over	1,010	815	81	100	16
<b>Total income</b>					
Less than \$10,000	4,705	1,503	32	99	6
\$10,000 - 19,999	4,919	2,392	49	99	8
\$20,000 - 29,999	3,443	1,930	56	98	12
\$30,000 - 39,999	2,334	1,440	62	98	16
\$40,000 - 49,999	1,387	937	68	97	21
\$50,000 - 59,999	748	547	73	96	28
\$60,000 - 69,999	366	285	78	96	34
\$70,000 - 79,999	180	147	82	96	40
\$80,000 - 89,999	101	85	85	96	44
\$90,000 - 99,999	62	54	87	97	47
\$100,000 and over	206	191	92	97	56

Source: Small Area and Administrative Data Division

## Definitions and data source

Interest income refers to the amount Canadians claimed on line 121 of the 1990 T1 tax return. This includes interest generated from bank deposits, Canada Savings Bonds, corporate bonds, treasury bills, annuities, mutual funds, life insurance policies and all foreign investment income. In 1990, total foreign investment income, which includes foreign dividends, represented only 1.5% of the total amount claimed on line 121. Due to the very small proportion of foreign dividends, the item is considered to be wholly interest.

The taxable amount of dividends from Canadian taxable corporations is reported on line 120 of the 1990 T1 return. This amount is adjusted downward so that dividend income refers to the amount received and not the taxable amount. Investment income is the sum of interest and dividends as defined above.

An individual with investment income may have reported interest, dividends or both. Of taxfilers reporting investment income in 1990, 85% had interest income only. Just 2% had dividend income only, and 13% had both. Therefore, 98% of taxfilers reporting investment income had interest income, whereas 15% had dividend income.

Total income represents the sum of a taxfiler's income from various sources before taxes. These sources of income include the following: gross income from employment less employment deductions and other allowable deductions, net income from self-employment, gross pension income, government transfer payments (for example, the Federal Sales Tax Credit and the Child Tax Credit) and income from other sources (for example, Unemployment Insurance benefits and investment income). Taxable capital gains are not included in the calculation of total income.

Just over 50% of taxfilers reported investment income. One reason for this seemingly low proportion may be that individuals with low levels of interest income do not report it on their income

tax return. Since information slips are not prepared for all recipients (for example, those with interest income less than \$100 are often excluded), some taxfilers may mistakenly conclude that they need not report this income.

## Median versus mean income

For a group of individuals, the mean income, commonly referred to as the average income, is calculated by summing their total incomes and then dividing by the number of individuals. In contrast, median income is determined by sorting the list of total incomes in order of magnitude. The middle figure in the list is the median.

For the analysis of personal income and, specifically, investment income, medians were chosen as representative measures. Averages were not used for the following reason. The presence of a few extremely high or low values in a range of figures being averaged will significantly pull the average towards these outliers. In other words, a few individuals with very high incomes tend to bias the average upwards and overstate the true situation for the majority of individuals in the group. The median, however, is unaffected by the presence of outliers at both ends of the distribution and is therefore a more representative measure. In 1990 for example, \$4,119 was the average amount of investment income reported by taxfilers with this income. On the other hand, the median amount was only \$850.

Data on interest and dividends reported in this article were retrieved from the T1 Family File produced by the Small Area and Administrative Data Division of Statistics Canada. This file also contains data on other types of investment income such as net limited partnership income, net rental income, and taxable capital gains. Data for provinces, cities and other sub-provincial areas are also available. For further information on the T1 Family File, contact the Small Area and Administrative Data Division of Statistics Canada at (613) 951-9720.

## High-income recipients are major investors

There exists a positive relationship between median investment income and total income. However, the level of investment income of some lower income groups rivals those with middle to high incomes. For example, individuals reporting investment income with total incomes between \$10,000 and \$19,999 had a median investment income of \$1,050, almost the same as the amount received by taxfilers with incomes of \$60,000

to \$69,999 (\$1,150). The high investment income reported by taxfilers with low total incomes reflects the presence of elderly individuals in these income groups.

Nonetheless, total income is still a major determinant in the distribution of investment income. Of all taxfilers reporting investment income, only 2% had total incomes over \$100,000. This small group received approximately 19% of all investment income (\$7.4 billion), and their median investment income was \$7,200, the highest of all groups.



For taxfilers with incomes of \$100,000 or more, investment income, on average, accounted for a substantial share (20%) of their total income (Chart C). Although less in nominal value, investment income also constituted an important share of the total income of some low-income recipients.<sup>1</sup>

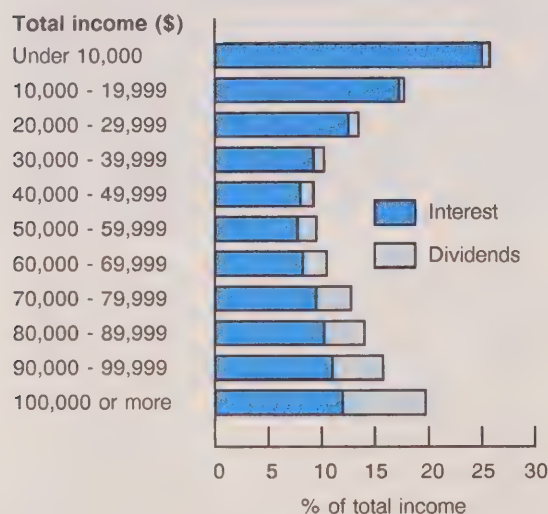
### A preference for interest

In 1990, interest income was widespread. Almost all taxfilers reporting investment income (98%) received interest (Table 1). Furthermore, interest made up the bulk (83%) of the \$39 billion of investment income reported in 1990.

As a proportion of investment income, interest income varied by age and total income (Chart D). Nonetheless, interest was the main source of investment income for all groups.

Chart C

**Some lower-income recipients relied heavily on investment income in 1990.**



Source: Small Area and Administrative Data Division

Note: The population includes only taxfilers reporting investment income.

### Dividend income

Whereas interest income is widespread, dividend income is not. As total income increases, taxfilers are more likely to report dividend income (Table 1); thus, dividends are largely reported by high-income recipients. In 1990, taxfilers with total incomes of \$100,000 or more reported 44% of all dividend income.

Furthermore, as a proportion of investment income, dividends increased as total income rose (Chart D). There are several reasons for this phenomenon.

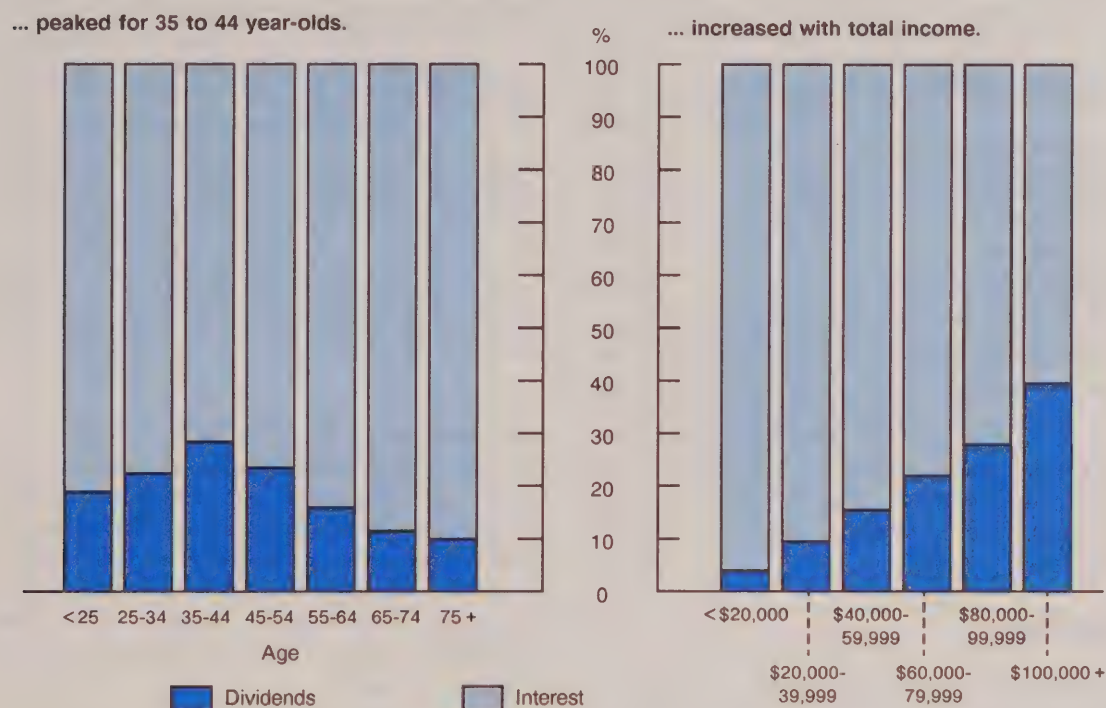
First, individuals with higher than average incomes are more likely to have discretionary income (Owens, 1991). Since discretionary income is money that can be spent freely, without affecting one's standard of living, it lends itself to higher-risk investments. On the other hand, individuals with little or no discretionary income tend to save their money, often in low-risk, interest-bearing financial instruments, such as bank accounts, Canada Savings Bonds and Guaranteed Investment Certificates (GICs).

Second, the difference between how interest and dividends are taxed may affect the investment decisions of high-income recipients (Jenkins, 1989). For example, while the Dividend Tax Credit reduces the tax paid on dividend income, no comparable credit exists for interest.

While total income and dividend income are clearly linked, the relationship between dividends and the age of the taxfiler is less straightforward. The share of investment income made up of dividends peaks among taxfilers aged 35 to 44 (Chart D). In 1990, dividends accounted for 28% of the investment income reported by taxfilers in this group. The data suggest that these taxfilers are somewhat less risk averse than others. However, of taxfilers aged 35 to 44 with investment income, only 16% reported dividends.

Chart D

In 1990, the proportion of dividends reported...



Source: Small Area and Administrative Data Division

Note: The population includes only taxfilers reporting investment income.

## Women and investment income

Although nearly equal numbers of men and women reported investment income, the composition of this income was quite different. In 1990, interest income was fairly evenly distributed between men and women. This was not the case for dividends. Among dividend recipients, 57% were male and they received 65% of all dividends reported. For men, those dividends made up 22% of their investment income; for women, the figure was 12%.

Of taxfilers with investment income, women had a median total income of \$18,600 compared with \$31,500 for men. Since

investment income is positively related to total income, one would expect women in general to have less investment income than men. However, in 1990, women's aggregate investment income (\$19.3 billion) was only marginally below that of men (\$19.8 billion). The phenomenon can be explained by women's longevity.<sup>2</sup>

Since wives generally outlive their husbands, the inheritance of their spouses' financial assets, in addition to their own, results in an increased level of investment income. This investment income, which in the past may have been divided and claimed on the tax forms of both spouses, or solely on the husband's, is now claimed only by the widow (Table 2).

Table 2  
Income of unattached taxfilers by age and sex, 1990

	All taxfilers	Taxfilers reporting investment income			
		Total	Proportion of all taxfilers	Median total income	Median investment income
	'000		%	\$	
Unattached women					
55-64 years	259	163	63	21,700	2,350
65-74 years	391	288	74	16,800	3,100
75 years and over	465	365	78	14,500	4,400
Unattached men					
55-64 years	169	91	54	28,200	2,150
65-74 years	139	93	67	20,900	2,950
75 years and over	122	94	77	16,600	4,550

Note: Population includes only taxfilers reporting investment income.

In 1990, 45% of taxfilers reporting investment income aged 75 and over were unattached women (single, divorced or widowed). The comparable figure for unattached men is 12%.

## Summary

Investment income is generally an important income source for the elderly and high-income recipients of all ages. However, the two groups differ considerably.

Taxfilers 75 years and over who reported investment income had a median

total income of \$15,700, 43% of which, on average, was generated by investments. This investment income, in turn, consisted mostly of interest (90%). In contrast, investment income accounted for 20% of the total income of those earning \$100,000 or more and reporting investment income. Of this investment income, 40% was received in the form of dividends.

Investment income is of particular significance to elderly women. A longer life span, as compared with men, means that women spend a greater number of years depending on this source of income. □

## Notes

<sup>1</sup> Since the likelihood of reporting investment income was positively related to total income, a smaller proportion of lower-income taxfilers reported investment income than did higher-income taxfilers. Only 40% of taxfilers with total incomes under \$20,000 reported investment income as compared with 92% of taxfilers with incomes of \$100,000 or more.

<sup>2</sup> Among married couples, the wife generally outlives her husband. "In fact, half of all marriages end with the death of the man while only one-fifth end with the death of the woman. Beyond the fact that most wives outlive their husbands, grooms are, on average, two and one-half years older than their brides. It should not be surprising, then, that the 'average' woman (which includes all women, widowed or not) spends four times longer in the widowed state than does the average man - 8 years versus 2 years" (Adams and Nagnur, 1988).



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# A note on tracking employment in manufacturing

Claude Robillard

**F**ew businesses make decisions about hirings and layoffs on the spur of the moment. But, to some extent, employers are able to anticipate the need for workers as they see the volume of sales or orders picking up, slowing down, or remaining steady. In fact, the combined hiring plans of Canadian manufacturers, as reflected in Statistics Canada's quarterly Business Conditions Survey (BCS), are an indicator of the outlook for employment in that sector. This information about businesses' plans for staffing may, therefore, anticipate the subsequent results of the regular employment estimates.

The BCS contains the following question on anticipated changes in employment in manufacturing firms: "Over the next three months, employment in this establishment will: a) increase, b) change little, c) decrease." The responses to this question are expressed as a "balance of opinion" calculated by subtracting the percentage of firms expecting a decrease from the percentage expecting an increase. The responses are weighted by the number of employees in each establishment, so that the hiring intentions of large firms have a greater effect on the balance than those of small firms. For instance, an establishment with 1,000 workers would have twice the impact of a firm with 500 workers.

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A positive "balance of opinion" indicates anticipated growth in manufacturing employment in the current quarter, while a negative balance signals a potential downturn. If the balance is close to zero, very little change in employment is expected.

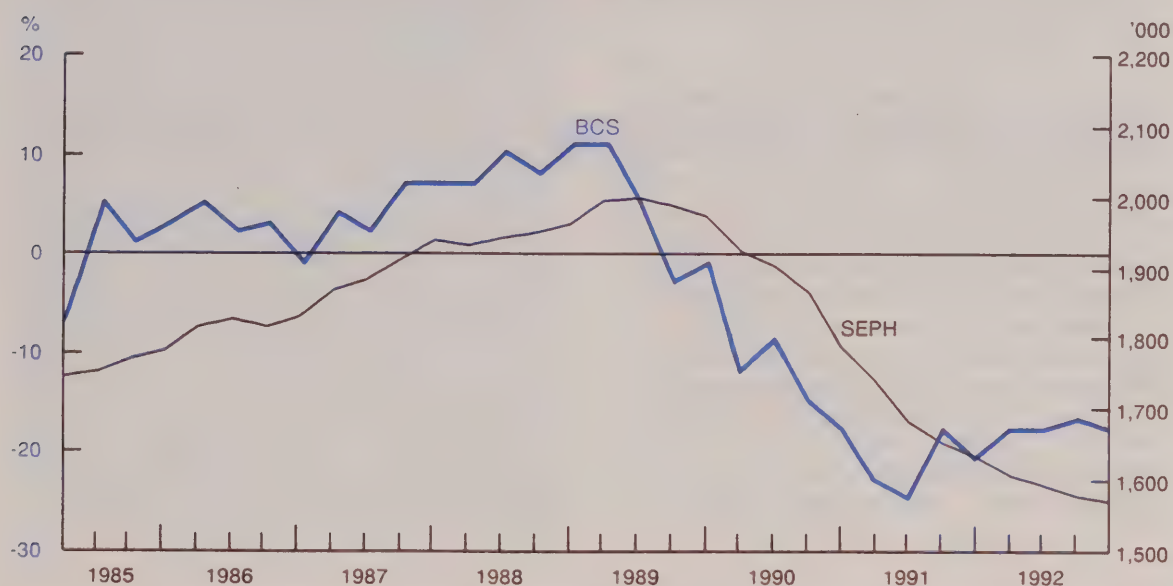
To what degree is this aggregation of employment expectations tied to economic conditions? And does it actually foreshadow what subsequently happens to employment in manufacturing?

Since 1985, the BCS balance of opinion has tracked employment trends in manufacturing quite closely, rising in periods of economic expansion and falling during times of restraint. For instance, from the second quarter of 1985 to mid-1989, the balance was generally positive and increased overall, reaching a high of +11 in the fourth quarter of 1988 and the first quarter of 1989. Thereafter, the balance fell almost steadily to a low of -25 in the second quarter of 1991. An upturn since then brought the balance into the -17 to -18 range throughout 1992. These trends were similar to those shown for manufacturing in two other employment series: the Survey of Employment, Payrolls and Hours (SEPH) and the Labour Force Survey (LFS) (Charts A and B).

The BCS balance of opinion can also be a forerunner of turning points in the SEPH and LFS series. For example, a drop in the balance of opinion in the second quarter of 1989 was followed by a downturn in the third quarter in the other two series.

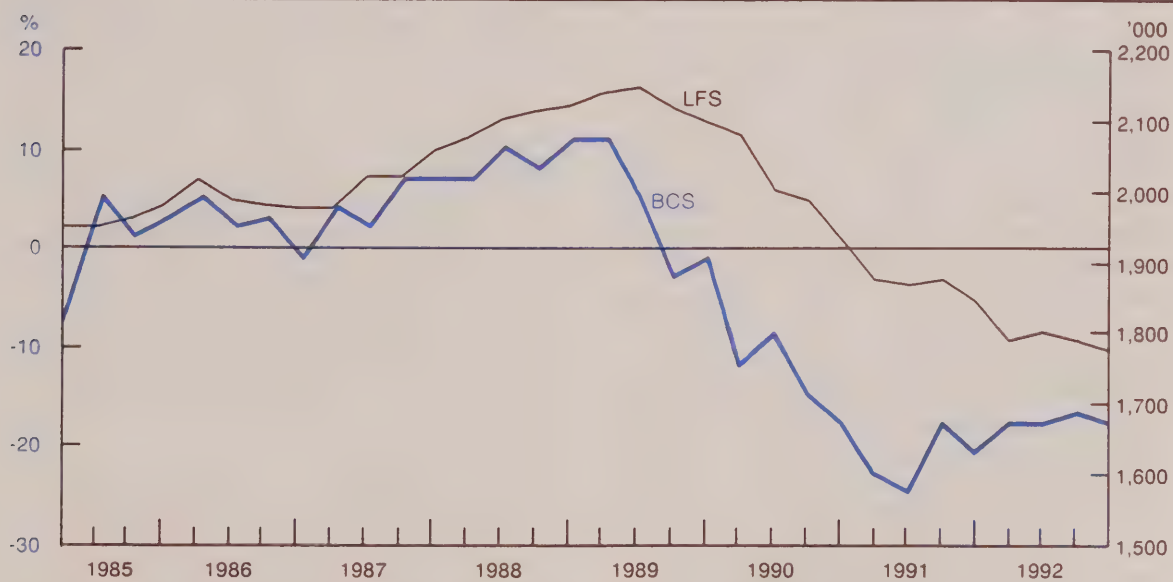
Chart A

**A change in the trend of the BCS "balance of opinion measure" frequently precedes a turning point in the SEPH and LFS manufacturing employment series.**



Sources: Business Conditions Survey and Survey of Employment, Payrolls and Hours

Chart B



Sources: Business Conditions Survey and Labour Force Survey

Note: The seasonally adjusted BCS "balance of opinion measure" reflects firms' hiring intentions at the beginning of each quarter, whereas the SEPH and LFS data are seasonally adjusted quarterly averages.



Similarly, the rise in the balance of opinion in mid-1991 signalled the slowdown in the rate of employment decline in manufacturing shown by SEPH and the levelling off of manufacturing employment in the LFS figures in the first quarter of 1992.

The BCS balance of opinion provides an outlook on employment trends in advance of the two more widely known and used employment series. However, a particular quarter-to-quarter change in the balance of opinion should not be regarded as a prediction of what will subsequently happen to total manufacturing employment in that quarter. And because the balance of opinion is based strictly on employers' opinions about the general direction of staffing in their organization, it cannot be quantified into a number of employees. It is an early indicator of the direction that manufacturing employment may take, but not of what those employment levels actually will be.

### Data source

The Business Conditions Survey (BCS) is carried out by the Industry Division of Statistics Canada every January, April, July, and October. With minor exceptions, it uses the same sample as the monthly Survey of Manufacturing. The BCS is a voluntary survey reaching more than 9,000 establishments. Results are based on approximately 5,000 responses. Because the survey pertains to opinions, no adjustments are made for non-response.

Survey results are generally available the first week after the reference month. As well as employment, seasonally adjusted data on opinions about production prospects, finished product inventories, and new and unfilled orders are available at the Canada level for total manufacturing. Data (not seasonally adjusted) are available for total manufacturing by province and by establishment size, as well as for all characteristics (including production impediments) at the Canada level by major industry group. Data are also available on CANSIM (matrices 2843 to 2845).

For further information, contact Claude Robillard, Monthly Survey of Manufacturing, Industry Division (613) 951-3507 or fax (613) 951-9499.

## What's new?

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### Just released

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#### *Labour force annual averages*

The recent recession battered Canada's goods-producing sector, and given the pressures of NAFTA and industrial restructuring, many observers believe that jobs lost in 1991-92 are gone forever. The special feature article in this year's edition of *Labour force annual averages, 1992* (Catalogue 71-220) assesses the state of employment in the goods-producing sector from 1976 to 1992. During this period, total employment in Canada rose 29%, but employment in goods-producing industries declined by 2%.

Highlights of the article include:

- In 1992, employment in the goods-producing sector stood at 3.3 million, down 2% from 1976. This was about 12% less than the high point reached in 1989.
- Although two of the four primary industries recorded declining employment throughout the 1976-92 period, the bulk of the losses occurred after the mid-80s.
- Manufacturing industries accounted for 54% of employment in goods production in 1992, with 1.8 million workers, down about 133,000 from 1976; the overall lack of growth during the period masks increases in some industries and declines in others.
- Long-term employment growth occurred in such manufacturing industries as printing, transportation equipment, and electrical and electronic products; in contrast, long-term declines were recorded in seven other major industries, among them textiles, metal fabricating, machinery, and paper.
- Employment in construction grew by 7%, despite a prolonged downturn during the 1981-82 and 1990-92 recessions.
- At 149,000 in 1992, employment in utilities was about one-third higher than it had been in 1976. Most of this growth occurred after 1987.

*Labour force annual averages, 1992* (Catalogue 71-220) provides 1992 annual average estimates of labour market indicators published monthly in *The labour force* (Catalogue 71-001). In addition, it provides provincial breakdowns for variables such as employment by detailed industry, hours worked, average days lost in major industry groups, occupation, and labour force characteristics by family composition. The annual publication also contains more detail for sub-provincial areas than the monthly publication, with estimates of employment by major industry group and occupation for both census metropolitan areas (CMAs) and economic regions. And to assist users of provincial and other detailed variables, data are expressed, for the first time, in hundreds rather than thousands, and estimates of less than 4,000 are published. This increased

precision will reduce the errors that occur when calculations are made on rounded estimates.

*Labour force annual averages, 1992* (Catalogue 71-220) is available for \$39.00 from Publications Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584. □

### *Help-wanted Index rebased*

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The Help-wanted Index (HWI) is the only indicator of unfilled labour market demand produced monthly by Statistics Canada. Its method is simple – comparing the number of help-wanted ads in newspapers in 22 metropolitan areas with the average number of ads in a base period – and it has been a successful predictor of changing demand for workers since its inception in 1973.

The HWI has just been rebased to 1991, and the revised data series is now available in the *Help-wanted Index 1981-1992* (Catalogue 71-540). The publication contains a brief analytical review of the HWI's performance over the past 12 years, and provides charts and tables for Canada, the regions and selected metropolitan areas. Data can also be obtained from CANSIM, matrix 105, levels 8, 9 and 10.

Highlights of the new report include:

- After peaking at 217 in February 1989 (1991=100), the Help-wanted Index gradually declined to reach 83 in March 1992. It fluctuated around this level until November, then increased 4 points to 88 in December 1992.
- The decline began at different times in different regions of the country. It first began in Ontario (where the index fell 68% between its peak and December 1992), followed by Quebec (-60% from its peak to December 1992), the Atlantic

provinces (-57%), the Prairie provinces (-53%) and then British Columbia (-50%).

The *Help-wanted Index 1981-1992* (Catalogue 71-540) is available for \$27 from Publication Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584. □

### *Business Conditions Survey measures demand for skilled labour*

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The quarterly Business Conditions Survey (BCS), an opinion survey reaching about 9,000 manufacturing establishments, provides insights into the business expectations of decision-makers "on the ground." Data are collected on tangible indicators – inventories of finished goods, orders received and orders not filled in the preceding quarter. Respondents are also asked to anticipate their establishment's levels of production and employment in the upcoming quarter and, as such, their predictions can be used as indicators of manufacturing activity over the next few months.

Information about the difficulties employers have acquiring the labour they need can be gleaned from the survey's six-part question on "impediments to production activities in this establishment." Shortages of skilled and unskilled workers, as well as raw materials or working capital, are identified as impediments. This particular component of the BCS can be used as an indicator of demand for skilled and unskilled labour. (See "A note on tracking employment in manufacturing" in this issue, pages 60 to 63.)

Not surprisingly, the BCS shows that demand for labour of any sort rises and falls with the business cycle. But while demand for skilled labour slows during economic downturns, that for unskilled labour disappears. Similarly, during periods of



recovery, shortages of skilled workers concern manufacturers long before they begin to worry about inadequate numbers of unskilled workers.

General results of the Business Conditions Survey are published in *The Daily*. Data for the third quarter (July to September) will be released August 4; results for the fourth quarter will be published November 2. For information, contact Claude Robillard at (613) 951-3507; fax (613) 951-9499. □

### *SEPH articles to highlight cyclical trends in employment and earnings*

Three upcoming articles in *Employment, earnings and hours* (Catalogue 72-002), based on the Survey of Employment, Payrolls and Hours (SEPH), may interest those monitoring trends in this area.

In the June 1993 issue of the publication, the article "Patterns of growth in employment, payrolls and hours 1983-1992" looks at provincial industries that have contributed significantly to the national totals over the past ten years. The study demonstrates that the patterns of growth for selected industries reflect varying contributions from three labour market sources, namely, employment, payrolls and hours.

A more technical article on the "Use of SEPH data for contract escalation," slated for publication in the September issue, illustrates how average weekly and hourly earnings can be used to set contract escalation clauses. SEPH data are commonly used for this purpose.

And in December, "Recent trends in payrolls in commercial and non-commercial industries" examines payrolls in selected broad industry groupings over the business cycle. While some industries are strongly sensitive to economic conditions, others are

virtually immune. These contrary patterns doubtless affect labour relations in the different sectors.

*Employment, earnings and hours* (Catalogue 72-002) provides national and provincial estimates of the number of employees in the country, their weekly and hourly earnings, and their paid hours. Analytical highlights, as well as data for detailed industries, are presented. Indices of diffusion and fixed-weighted earnings for several of the most important series are also published. The report appears monthly, with the feature article printed in the last month of each quarter.

*Employment, earnings and hours* (Catalogue 72-002) is available for \$285 per year from Publication Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584. □

### *Survey on employment history of 1986 graduates completed*

Over the past eight years, Employment and Immigration Canada has sponsored a series of surveys to collect information about recent graduates' labour market experiences. The Survey of 1986 Graduates was conducted in May 1988, two years after the respondents had completed university, college, or a trade/vocational program.

In March 1991, the Follow-up of the 1986 Graduates Survey (FOG) re-interviewed these respondents to further investigate their status in the labour market. It captured not only the basic measures of labour force activity – entry into and exit from the job market, periods of unemployment, occupation, relationship between jobs and education – but also information about the link between education, labour market experience and further education or training.

Both 1986 surveys are comparable with the two surveys of 1982 graduates (conducted in May 1984 and March 1987), thus allowing analysts to carry out longitudinal and cross-sectional analyses of the two five-year periods following graduation. Unfortunately, highlights of the 1986 FOG were not available at the time of going to press.

Public use microdata tapes of the Survey of 1986 Graduates (May 1988) and the Follow-up of 1986 Graduates Survey (March 1991) are available from Special Surveys Group, Statistics Canada. For further information, call Bill Magnus at (613) 951-4577, or Warren Clarke at (613) 951-1522. □

### *StatsCan marks International year of the family*

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In recognition of 1994 as "The International Year of the Family" by the United Nations, Statistics Canada is publishing a special series of reports that provide data and analyses of the changing structure and nature of Canadian families. A descriptive report, *Basic facts on families in Canada: past and present*, is now available. In addition to other topics, it covers the impact of women's employment on the family, the division of unpaid household labour, and the economic well-being of families. Charts and easy-to-read tables accompany straightforward text.

To order *Basic facts on families in Canada: past and present*, contact Janet Che-Alford, Housing, Family and Social Statistics Division, Statistics Canada, Ottawa K1A 0T6; fax (613) 951-0387. □

### *The Census looks at families*

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The 1991 Census reveals ongoing changes in the size, structure and composition of Canada's families and households. Two data publications documenting this evolution will be available in the third quarter of 1993. *Families: social and economic characteristics* (Catalogue 93-320) provides detailed data at the national and provincial levels for husband-wife, lone-parent and childless families. Information is presented about topics such as home ownership, immigrant status, place of birth, education, language, and labour force status of family members.

*Household and family trends, 1971-1991* (Catalogue 94-309) presents a 20-year overview of trends in Canadian households and families. Data cover household and family size, family structure, labour force activity of parents and living arrangements. A special set of tables illustrate the rapid growth in new family structures such as living alone, lone parenthood and common-law partnerships.

To order *Families: social and economic characteristics* (Catalogue 93-320) or *Household and family trends, 1971-1991* (Catalogue 94-309), write to Publications Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584. □

### *How Canadians spend their time*

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Results of the General Social Survey (GSS) Cycle 7 on time use were released in April. Cycle 7 repeated much of the content of the 1986 GSS, which was the first national time use survey conducted in Canada. It did,



however, provide some additional information, such as the main activity of the spouse or partner, and the extent to which people felt pressed for time.

Using a diary system, about 9,000 respondents chronicled their activities for a 24-hour period, providing details about each activity including the time of day, duration and location (for example, home or office), and other persons present at the time. The survey was conducted over a 12-month period, to ensure that data were not biased by the seasonal nature of many activities (for example, people are more physically active in summer than in winter).

Covering the total population aged 15 and over and every day of the week, the survey shows that:

- Personal care accounted for the largest amount of time – 10.5 hours – but most of this time (8.1 hours) was spent sleeping. Overall, free time ranked second (5.7 hours), followed by paid work and education (4.2 hours), and unpaid work (3.6 hours).
- During a working day, people with full-time jobs averaged 7.8 hours a day at their main job and 48 minutes commuting to and from work.
- Among full-time, dual-earning couples, paid work accounted for an average of 6.7 hours a day for men and 5.9 hours for women. However, women more than compensated for this gap when unpaid work was taken into account. Women in dual-earning couples spent 3.9 hours a day on unpaid work, compared with 2.7 hours for dual-earner husbands.
- 43% of those with full-time jobs worried that they did not have sufficient time to devote to family and friends; this compared with 22% of those whose main

activity is keeping house. As well, 48% of men and 61% of women with full-time jobs reported feeling under stress when they had insufficient time to do what had to be done.

- Overall, 26% of men and 25% of women admitted they were "workaholics." The figures were higher for people employed full-time: 32% for both men and women.

For more information about the GSS time use surveys, contact Ghislaine Villeneuve at (613) 951-4995; for information about the GSS program, see "Sources," *Perspectives*, Spring 1990, or contact Doug Norris at (613) 951-2572. □

### *Ageing of the population*

The ageing of the Canadian population is accelerating. *Population ageing and the elderly* (Catalogue 91-533E) examines some of the forces underlying this trend, and presents data on the present conditions of people aged 65 and older.

The report's seven chapters explore demographic trends contributing to the ageing process – fertility, mortality and immigration – and also discusses housing and living conditions of senior citizens, their financial situation, and health.

Highlights of the report include:

- Between 1991 and 2036, the number of people aged 65 and older in Canada is expected to increase from 3.2 million to 8.6 million.
- In 1986, one-third of men aged 65 and over had part-time jobs, compared with half of women the same age.
- In 1985, the average total income of men aged 65 and over was \$17,100 and of women, \$10,800.



- In 1985, a married man aged 65 or over had a total income of almost \$18,000, while married women had half that (\$9,000). Single men and women reported almost identical total incomes of about \$14,000.

*Population ageing and the elderly* (Catalogue 91-533E) is available for \$40 from Publications Sales, Statistics Canada, Ottawa, K1A 0T6; fax (613) 951-1584. □

### *Report on seniors' independent living released*

In an effort to expand our understanding of ageing and its implications for the future, the Seniors' Secretariat is producing a report titled *Survey on ageing and independence: an overview*. Based on the September 1991 survey, it presents basic information that can help identify why some people remain more independent than others as they grow older. "Independence" is defined as maintaining control over one's lifestyle, and does not necessarily refer to one's living arrangements. (For a description of the survey and highlights of its main findings, see "What's New?", *Perspectives*, Autumn 1992.)

The report analyzes the situation of older Canadians with reference to those characteristics believed to be associated strongly with independence in later life. Since this requires examining their lifestyle prior to reaching age 65, a significant portion of the analysis is devoted to documenting the labour force participation, retirement strategies, economic well-being and health of "tomorrow's seniors" aged 45 to 64, as well as those currently 65 and over.

For more information, or to order *Survey on ageing and independence: an overview*, write to the Seniors Secretariat, Health and Welfare Canada, Ottawa, K1A 0K9; or call (613) 952-7606. □

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## New surveys

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### *March 1993: Survey of Job Opportunities*

This annual supplement to the Labour Force Survey identifies jobless people who say they want a job but are not seeking one. (Because these people are not actively searching for work, they are not counted in the published official LFS unemployment figures.) The survey's objective is to estimate the number of Canadians in this situation, what kind of work they want, and why they have stopped looking for it.

The reasons why people are not pursuing a job search fall into two basic categories – labour-market related, and personal. Job-related reasons include: awaiting recall following a lay-off, waiting for replies to job applications, or belief that no jobs suited to their skills or area of residence are available. (People in this last group are the so-called "discouraged workers.") Personal reasons are: going to school, child or family responsibilities, own illness or disability, or no longer interested in finding work.

Respondents are also asked:

- whether they want work lasting more than six months, and a full-time or part-time job,
- if they are willing to move if offered a suitable job in another area or province, and
- whether they expect to be working in the next six months.

Results of the Survey of Job Opportunities are now available. For more information, contact Ernest B. Akyeampong at (613) 951-4624. □

### *April 1993: Survey of Private Training Schools*

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This survey was sponsored by Employment and Immigration Canada to assess the growth and scope of private establishments such as business, trade and vocational schools. Results will be used to monitor private training as a component of all vocational training, and to help identify trends in this source of supply of skilled labour.

Surveys were mailed in April to about 5,000 schools. Data were collected on the general characteristics of provincially registered and non-registered schools, and on the number and type of programs provided during 1992. Information about the number of students enrolled and their basic demographic characteristics was also gathered.

Preliminary results of the 1993 Survey of Private Training Schools should be available in fall 1993. For more information, contact Michel Cormier at (613) 951-0608; fax (613) 951-9040. □

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## Key labour and income facts

The following selection of labour and income indicators is drawn from 12 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest annual figures are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated or revised since the last issue is "flagged" with an asterisk.

### Data sources

The indicators are derived from the following sources:

- |           |  |
|-----------|--|
| 1-11 & 15 | <b>Labour Force Survey</b><br>Frequency: Monthly<br>Contact: Doug Drew (613) 951-4720                          |
| 12-14     | <b>Labour Market Activity Survey</b><br>Frequency: Annual<br>Contact: Stephan Roller (613) 951-4625            |
| 16        | <b>Absence from Work Survey</b><br>Frequency: Annual<br>Contact: Nancy Brooks (613) 951-4589                   |
| 17        | <b>Workers' Compensation statistics</b><br>Frequency: Annual<br>Contact: Joanne Proulx (613) 951-4040          |
| 18        | <b>Help-wanted Index</b><br>Frequency: Monthly<br>Contact: André Picard (613) 951-4045                         |
| 19-20     | <b>Unemployment Insurance statistics</b><br>Frequency: Monthly<br>Contact: André Picard (613) 951-4045         |
| 21-28     | <b>Survey of Employment, Payrolls and Hours</b><br>Frequency: Monthly<br>Contact: Cindy Ingalls (613) 951-4090 |

- |       |  |
|-------|--|
| 29-31 | <b>Labour Canada, major wage settlements</b><br>Frequency: Quarterly<br>Contact: Information (819) 997-3117  |
| 32-34 | <b>Labour income (Revenue Canada, Taxation-based statistics, Survey of Employment, Payrolls and Hours and other surveys)</b><br>Frequency: Quarterly<br>Contact: Ed Bunko (613) 951-4048 |
| 35-45 | <b>Survey of Consumer Finances</b><br>Frequency: Annual<br>Contact: Kevin Bishop (613) 951-2211  |
| 46-52 | <b>Household Facilities and Equipment Survey</b><br>Frequency: Annual<br>Contact: Penny Barclay (613) 951-4634   |
| 53-54 | <b>Small Area and Administrative Data</b><br>Frequency: Annual<br>Contact: Customer Services (613) 951-9720  |

Notes on the method of deriving certain indicators are given at the end of the table.

### Additional data

The table provides 2 years of data for most indicators. A longer time series (generally 10 years) for this set of indicators can be obtained, on paper or diskette, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This 10-year dataset is updated quarterly. For information, contact Jeannine Usalcas at (613) 951-6889; fax (613) 951-4179.

## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>Labour market</b>							
1 Labour force	'000	1991	13,757	241	64	422	327
		1992	13,797	236	64	416	331
Change	%		0.3	-2.2	1.1	-1.4	1.2
2 Participation rate	%	1991	66.3	55.3	65.1	61.3	58.6
		1992	65.5	53.6	65.8	59.9	59.0
3 Employed	'000	1991	12,340	197	53	371	286
		1992	12,240	188	53	361	289
Change	%		-0.8	-4.4	0.1	-2.6	1.1
4 Proportion of employed working part time	%	1991	16.4	12.3	16.2	17.0	15.3
		1992	16.8	13.5	16.4	17.5	15.6
5 Proportion of part-timers wanting full-time work	%	1991	27.7	59.1	39.3	38.6	39.8
		1992	32.5	62.1	43.4	45.5	45.9
6 Unemployed	'000	1991	1,417	44	11	51	42
		1992	1,556	48	11	55	42
Change	%		9.9	7.2	6.2	7.8	1.9
7 Official unemployment rate	%	1991	10.3	18.4	16.8	12.0	12.7
		1992	11.3	20.2	17.7	13.1	12.8
<b>Alternative measures of unemployment</b>							
8 Unemployed 14 or more weeks as a proportion of the labour force	%	1991	4.6	9.3	6.3	5.2	5.2
		1992	5.5	10.2	7.3	6.0	5.4
9 Unemployment rate:							
– of persons heading families with children under age 16	%	1991	9.1	17.0	16.9	10.5	11.8
		1992	9.7	19.0	17.4	10.9	11.5
– excluding full-time students	%	1991	10.1	18.4	17.3	11.9	12.6
		1992	11.0	20.1	17.9	12.7	12.6
– including full-time members of the Canadian Armed Forces	%	1991	10.2	18.3	16.7	11.7	12.5
		1992	11.2	20.1	17.6	12.8	12.6
– of the full-time labour force	%	1991	12.4	21.6	20.4	15.0	15.5
		1992	13.6	23.6	21.4	16.6	16.0
– of the part-time labour force	%	1991	11.8	16.2	10.2	13.9	13.6
		1992	14.1	21.7	12.0	16.7	15.6
– including persons on the margins of the labour force	%	1991	11.0	22.2	18.4	13.0	14.8
		1992	12.1	24.4	18.7	14.1	14.8
10 Underutilization rate based on hours lost through unemployment and underemployment	%	1991	13.0	22.3	20.9	15.7	16.4
		1992	14.3	24.3	22.0	17.5	17.1
11 Proportion unemployed six months or longer	%	1991	23.3	28.2	--	21.1	21.4
		1992	28.1	29.3	--	23.9	22.2

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,392	5,276	541	484	1,357	1,652	..	..	1991	'000	1
3,385	5,286	535	480	1,370	1,693	..	..	1992		
-0.2	0.2	-1.2	-1.0	1.0	2.5	..	..		%	
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991	%	2
62.5	67.3	66.0	66.6	71.9	66.3	..	..	1992		
2,987	4,770	494	449	1,246	1,489	..	..	1991	'000	3
2,953	4,714	484	440	1,240	1,517	..	..	1992		
-1.1	-1.2	-2.0	-1.9	-0.5	1.9	..	..		%	
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991	%	4
15.1	17.3	19.4	18.4	16.4	18.0	..	..	1992		
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991	%	5
38.0	29.1	32.8	35.4	27.8	27.9	..	..	1992		
405	506	48	36	111	163	..	..	1991	'000	6
432	572	51	39	130	176	..	..	1992		
6.6	13.0	7.5	10.1	16.9	7.9	..	..		%	
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991	%	7
12.8	10.8	9.6	8.2	9.5	10.4	..	..	1992		
5.8	4.2	3.9	2.8	3.0	4.1	..	..	1991	%	8
6.8	5.4	4.0	3.4	3.8	4.5	..	..	1992		
10.4	8.3	7.4	6.6	7.5	9.0	..	..	1991	%	9
10.6	9.1	8.1	7.3	8.5	9.1	..	..	1992		
11.9	9.3	8.7	7.2	8.0	9.7	..	..	1991	%	
12.6	10.3	9.2	8.0	9.3	10.3	..	..	1992		
11.9	9.5	8.7	7.3	8.2	9.8	..	..	1991	%	
12.7	10.8	9.5	8.2	9.4	10.4	..	..	1992		
14.5	11.2	11.5	9.9	9.5	12.2	..	..	1991	%	
15.3	12.8	12.4	11.4	11.3	12.8	..	..	1992		
13.1	11.6	11.0	10.5	11.1	10.6	..	..	1991	%	
15.3	14.8	12.9	9.6	13.1	11.9	..	..	1992		
13.3	9.9	9.3	7.9	8.5	10.2	..	..	1991	%	
14.2	11.3	10.2	8.8	9.9	10.7	..	..	1992		
14.9	11.9	12.1	10.7	10.1	12.8	..	..	1991	%	10
15.8	13.6	13.1	12.1	12.1	13.3	..	..	1992		
27.4	22.7	22.3	18.0	17.9	20.9	..	..	1991	%	11
33.1	29.8	23.6	21.0	20.4	22.5	..	..	1992		

See Notes and definitions at end of table.



## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Other labour market indicators								
12	Employed at some time in the year, men, aged 16 to 69	'000	1989	7,707	158	37	241	197
	– as proportion of male population aged 16 to 69	%		85.8	81.3	87.0	83.5	82.1
		'000	1990	7,635	154	36	234	197
		%		83.9	79.4	85.8	80.2	81.3
	Employed at some time in the year, women, aged 16 to 69	'000	1989	6,364	124	32	197	164
	– as proportion of female population aged 16 to 69	%		69.2	63.9	74.6	64.4	66.0
		'000	1990	6,354	122	31	195	161
		%		68.4	62.9	72.2	63.2	64.6
13	Unemployed at some time in the year, men, aged 16 to 69	'000	1989	1,399	55	10	57	63
	– as proportion of male population aged 16 to 69	%		15.6	28.1	23.4	19.6	26.2
		'000	1990	1,434	53	10	53	51
		%		15.8	27.3	24.1	18.2	21.3
	Unemployed at some time in the year, women, aged 16 to 69	'000	1989	1,218	45	10	48	50
	– as proportion of female population aged 16 to 69	%		13.3	23.1	22.9	15.6	20.1
		'000	1990	1,157	45	9	45	41
		%		12.5	23.2	19.9	14.7	16.6
14	Full-time, full-year male paid workers	'000	1989	3,897	53	13	120	76
			1990	3,867	57	14	120	90
	Full-time, full-year female paid workers	'000	1989	2,613	33	11	76	52
			1990	2,674	39	12	84	61
15	Days lost per full-time worker per year through illness or for personal reasons	days	1991	9.4	10.6	8.0	9.7	9.4
			1992	9.2	10.7	7.9	9.0	8.9
16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1990	6.7	4.7	4.4	6.8	6.5
			1991	6.3	5.0	4.8	5.6	6.5
17	Workers receiving Workers' Compensation for time-loss injuries	'000	1990	594	10	3	13	13
	Change	%	1991	521	9	2	13	12
				-12.4	-9.1	-11.8	-1.1	-6.7
*18	Help-wanted Index (1991 = 100)		1991	100	100	100	100	100
			1992	86	88	96	87	82

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
1,949	2,939	294	267	731	894	..	..	1989	'000	12
83.4	81.1	84.7	84.8	87.8	84.9	..	..		%	
1,864	2,927	298	272	745	909	..	..	1990	'000	
78.9	86.4	85.1	87.4	88.1	84.4	..	..		%	
1,548	2,466	251	226	623	733	..	..	1989	'000	
64.1	72.1	70.8	71.3	75.2	68.5	..	..		%	
1,508	2,481	253	221	628	754	..	..	1990	'000	
61.9	71.6	71.3	71.5	74.9	68.8	..	..		%	
438	389	59	43	130	156	..	..	1989	'000	13
18.7	11.7	17.0	13.7	15.7	14.9	..	..		%	
446	453	57	42	108	161	..	..	1990	'000	
18.9	13.4	16.2	13.4	12.7	15.0	..	..		%	
343	371	47	35	95	176	..	..	1989	'000	
14.2	10.8	13.4	11.1	11.5	16.4	..	..		%	
328	372	44	34	91	148	..	..	1990	'000	
13.5	10.7	12.3	11.0	10.9	13.5	..	..		%	
978	1,570	149	123	355	460	..	..	1989	'000	14
939	1,600	135	106	356	449	..	..	1990		
657	1,081	101	82	260	261	..	..	1989	'000	
648	1,128	98	76	245	283	..	..	1990		
10.9	9.0	9.3	8.5	7.9	8.7	..	..	1991	days	15
10.7	9.0	8.4	8.1	7.7	8.6	..	..	1992		
7.5	6.7	6.4	5.8	5.2	6.8	..	..	1990	%	16
7.8	6.0	6.1	5.0	4.9	6.2	..	..	1991		
205	184	21	14	46	84	..	1	1990	'000	17
179	155	18	13	39	79	..	1	1991		
-12.7	-15.7	-15.3	-7.4	-15.6	-5.9	..	-6.7		%	
100	100	100	100	100	100	..	..	1991		18
87	87	93	83	76	87	..	..	1992		

See Notes and definitions at end of table.

## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>Unemployment Insurance</b>							
*19 Total beneficiaries	'000	1991	1,365	80	15	63	65
		1992	1,388	81	16	65	67
Change	%		1.7	1.6	5.0	2.7	2.5
*20 Regular beneficiaries without reported earnings	'000	1991	1,024	63	11	46	51
		1992	1,006	63	11	46	51
Change	%		-1.8	0.0	4.4	-1.0	-1.0
<b>Earnings (including overtime) and hours</b>							
*21 Average weekly earnings in current dollars	\$	1991	531.58	499.24	429.29	476.30	480.62
		1992	549.80	510.65	444.70	491.10	494.39
Change	%		3.4	2.3	3.6	3.1	2.9
*22 Average weekly earnings in 1986 dollars	\$	1991	421.22	413.28	340.98	381.96	386.97
		1992	429.20	418.22	350.43	391.31	395.51
Change	%		1.9	1.2	2.8	2.5	2.2
*23 Average weekly earnings of salaried employees in current dollars	\$	1991	665.75	603.37	560.75	605.37	603.32
		1992	691.04	621.71	599.84	621.34	624.15
Change	%		3.8	3.0	7.0	2.6	3.5
*24 Average weekly earnings of salaried employees in 1986 dollars	\$	1991	527.54	499.48	445.39	485.46	485.76
		1992	539.45	509.18	472.69	495.09	499.32
Change	%		2.3	1.9	6.1	2.0	2.8
*25 Average weekly earnings of hourly paid employees in current dollars	\$	1991	409.98	379.14	284.23	363.17	382.63
		1992	421.51	381.63	285.01	375.98	393.56
Change	%		2.8	0.7	0.3	3.5	2.9
*26 Average weekly earnings of hourly paid employees in 1986 dollars	\$	1991	324.87	313.86	225.76	291.23	303.08
		1992	329.05	312.56	224.59	299.59	314.85
Change	%		1.3	-0.4	-0.5	2.9	3.9
*27 Average weekly hours of hourly paid employees	hrs	1991	30.8	33.8	31.0	31.6	33.3
		1992	30.5	33.5	30.4	31.7	33.1
*28 Average weekly overtime hours of hourly paid employees	hrs	1991	0.9	1.2	0.4	0.6	0.7
		1992	0.8	0.9	0.3	0.6	0.7
<b>Major wage settlements</b>							
*29 Number of agreements		1991	534	15	4	19	24
		1992	482	10	5	5	14
*30 Number of employees	'000	1991	1,331	52	7	29	42
		1992	1,309	27	7	5	30
*31 Effective wage increase in base rates	%	1991	3.6	2.3	7.2	0.5	2.5
		1992	2.1	0.1	0.3	1.9	1.6

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
427	391	41	30	90	159	2	2	1991	'000	19
433	400	40	31	97	154	2	2	1992		
1.2	2.4	-2.4	2.8	8.1	-2.7	-1.1	18.7		%	
330	286	28	22	67	116	1	2	1991	'000	20
322	285	26	21	69	108	1	2	1992		
-2.5	-0.5	-7.7	-1.0	2.9	-6.6	-4.0	15.2		%	
518.50	555.83	477.90	465.33	532.04	534.88	634.28	705.85	1991	\$	21
537.13	578.30	488.56	472.35	546.59	549.09	677.86	714.13	1992		
3.6	4.0	2.2	1.5	2.7	2.8	6.8	1.2		%	
410.21	435.60	382.32	370.19	427.00	432.05	..	..	1991	\$	22
417.35	448.29	385.30	371.93	432.43	431.67	..	..	1992		
1.7	2.9	0.8	0.5	1.3	-0.1	..	..		%	
630.62	701.53	611.79	615.88	688.98	660.39	761.59	790.35	1991	\$	23
654.66	733.38	632.38	618.11	703.25	682.99	835.62	813.88	1992		
3.8	4.5	3.4	0.4	2.1	3.4	9.7	3.0		%	
498.91	549.79	489.43	489.96	552.95	533.43	..	..	1991	\$	24
508.67	568.51	498.72	486.70	556.37	536.94	..	..	1992		
2.0	3.4	1.9	-0.7	0.6	0.7	..	..		%	
413.58	424.56	358.49	327.46	377.07	433.80	467.01	583.65	1991	\$	25
429.49	436.08	365.83	336.67	387.98	441.91	494.62	576.41	1992		
3.9	2.7	2.1	2.8	2.9	1.9	5.9	-1.2		%	
327.20	332.73	286.79	260.51	302.62	350.40	..	..	1991	\$	26
333.71	338.05	288.51	265.09	306.95	347.41	..	..	1992		
2.0	1.6	0.6	1.8	1.4	-0.9	..	..		%	
31.8	30.8	30.2	28.0	29.5	29.4	31.3	33.5	1991	hrs	27
31.5	30.6	30.0	28.3	29.3	29.2	31.0	33.1	1992		
0.8	0.9	0.7	0.7	1.3	0.9	1.9	3.4	1991	hrs	28
0.7	0.9	0.7	0.7	1.1	0.8	2.2	2.6	1992		
104	154	41	5	43	56	..	..	1991		29
84	169	17	8	43	66	..	..	1992		
450	269	75	11	56	72	..	..	1991	'000	30
464	343	19	13	76	170	..	..	1992		
3.2	5.8	2.4	4.4	5.3	5.0	..	..	1991	%	31
1.2	2.4	2.4	3.4	3.6	3.3	..	..	1992		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
*32	Labour income in current dollars	\$ million	1991	379.0	5.2	1.2	9.4	7.5
			1992	345.3	4.6	1.1	8.6	7.0
	Change	%		-8.9	-11.3	-6.0	-8.5	-7.2
*33	Labour income per employee in current dollars	\$	1991	35,200	30,200	26,800	29,100	30,000
			1992	32,500	28,000	24,900	27,300	27,200
	Change	%		-7.8	-7.3	-7.1	-6.3	-9.5
*34	Labour income per employee in 1986 dollars	\$	1991	27,900	25,000	21,300	23,400	24,200
			1992	25,400	22,900	19,600	21,700	21,700
	Change	%		-9.2	-8.2	-7.8	-6.9	-10.1
*35	Net income from self-employment as a proportion of money income	%	1990	5.2	3.6	7.6	5.4	4.9
			1991	5.5	3.7	6.6	4.4	4.2
Earnings of full-time, full-year workers								
36	Average earnings of men working full time, full year	\$	1990	36,900	30,000	27,100	33,200	32,500
			1991	38,600	33,400	30,500	35,300	34,700
	Change	%		4.6	11.2	12.8	6.2	6.9
37	Average earnings of women working full time, full year	\$	1990	24,900	21,900	21,700	24,000	21,400
			1991	26,800	24,500	24,700	23,200	23,000
	Change	%		7.7	11.8	14.0	-3.1	7.4
38	Ratio of female-to-male earnings	%	1990	67.6	73.0	80.0	72.1	65.8
			1991	69.6	73.4	80.8	65.8	66.1
Family income								
39	Average family income	\$	1990	51,600	40,800	39,700	44,400	42,400
			1991	53,100	41,700	42,800	45,100	44,300
40	Median family income	\$	1990	46,100	35,300	34,900	39,900	38,100
			1991	46,700	36,600	38,000	39,400	38,700
41	Average income of unattached individuals	\$	1990	22,600	19,200	17,700	20,000	18,400
			1991	22,500	18,200	16,500	19,100	19,900
42	Median income of unattached individuals	\$	1990	17,500	13,500	13,600	16,500	13,900
			1991	17,300	13,100	12,200	14,700	15,100
*43	Average family taxes	\$	1990	10,200	6,500	6,000	7,900	7,200
			1991	10,500	6,700	7,000	8,100	7,600
*44	Average family income after tax	\$	1990	41,400	34,300	33,700	36,500	35,200
			1991	42,600	35,000	35,800	37,000	36,700

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
88.1	160.5	12.3	9.6	36.9	46.2	0.5	1.2	1991	\$ million	32
78.5	145.7	11.3	8.7	34.3	43.5	0.6	1.2	1992		
-10.8	-9.2	-8.4	-8.7	-7.1	-5.9	8.3	1.8			
33,500	38,000	29,900	28,100	34,700	35,800	..	..	1991	\$	33
30,200	35,100	27,900	26,100	32,500	33,300	..	..	1992		
-9.7	-7.6	-6.5	-7.1	-6.4	-6.8	..	..			
26,500	29,800	23,900	22,300	27,800	28,900	..	..	1991	\$	34
23,500	27,200	22,000	20,500	25,700	26,200	..	..	1992		
-11.3	-8.6	-7.8	-8.0	-7.7	-9.3	..	..			
4.5	5.4	5.3	8.7	5.9	4.9	..	..	1990	%	35
4.3	5.7	6.7	10.3	6.4	5.5	..	..	1991		
35,500	39,300	30,900	28,300	36,000	39,700	..	..	1990	\$	36
36,700	41,500	31,900	31,900	39,300	38,700	..	..	1991		
3.3	5.6	3.4	12.8	9.3	-2.5	..	..			
24,400	25,900	22,400	21,300	24,100	26,500	..	..	1990	\$	37
25,700	29,000	23,800	22,100	25,300	27,100	..	..	1991		
5.7	11.7	6.5	3.9	5.1	2.5	..	..			
68.5	66.0	72.5	75.4	67.0	66.8	..	..	1990	%	38
70.1	69.8	74.7	69.4	64.5	70.2	..	..	1991		
47,200	57,000	47,200	44,200	52,000	54,400	..	..	1990	\$	39
48,600	58,600	46,600	45,900	55,600	54,900	..	..	1991		
42,000	50,900	42,900	38,400	47,200	49,200	..	..	1990	\$	40
42,700	52,000	41,300	40,900	48,100	50,600	..	..	1991		
20,300	24,800	20,200	19,800	23,800	23,900	..	..	1990	\$	41
20,700	24,700	20,400	20,000	23,500	22,600	..	..	1991		
14,500	19,800	15,800	15,300	19,200	19,000	..	..	1990	\$	42
15,200	20,000	16,000	14,600	19,100	18,200	..	..	1991		
9,600	11,500	8,500	8,100	9,900	10,900	..	..	1990	\$	43
10,100	11,800	8,300	8,600	11,000	10,600	..	..	1991		
37,500	45,500	38,700	36,100	42,100	43,600	..	..	1990	\$	44
38,500	46,900	38,300	37,400	44,500	44,300	..	..	1991		

See Notes and definitions at end of table.



## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
45	Proportion below the low income cut-off (1986 base):							
	– families	%	1990 1991	12.1 13.1	14.3 16.4	10.2 9.9	12.0 12.9	12.7 12.3
	– unattached individuals	%	1990 1991	34.1 36.5	38.9 41.3	31.9 40.5	27.6 35.6	34.6 35.6
	– persons (population)	%	1990 1991	14.6 16.0	15.6 17.6	12.5 13.2	13.4 15.5	14.3 14.3
	– children (less than 18 years)	%	1990 1991	16.9 18.3	19.6 20.3	13.7 14.5	16.5 20.2	17.1 18.1
	– elderly (65 years and over)	%	1990 1991	19.3 20.0	16.2 16.8	16.2 13.7	13.0 16.1	13.9 14.3
Households and dwellings								
46	Estimated number of households and dwellings	'000	1991 1992	9,873 10,056	177 177	47 46	326 329	251 256
*47	Average household income	\$	1990 1991	45,300 46,100	38,400 39,200	35,000 37,700	39,800 39,800	38,200 40,200
48	Proportion of households with:							
	– VCRs	%	1991 1992	68.6 73.8	67.8 74.6	59.6 69.6	67.8 75.4	66.5 73.4
	– microwaves	%	1991 1992	73.5 76.0	65.0 68.9	63.8 69.6	72.4 76.9	72.5 76.2
	– two or more automobiles	%	1991 1992	25.1 24.6	13.6 11.9	21.3 23.9	20.2 20.1	20.3 19.9
	– vans and trucks	%	1991 1992	22.2 26.8	34.5 36.2	31.9 32.6	25.8 28.9	30.3 34.0
	– air conditioners	%	1991 1992	26.7 26.7	-- --	-- --	3.7 4.9	6.4 6.6
49	Proportion of owner-occupied dwellings	%	1991 1992	63.7 63.1	78.5 78.5	70.2 69.6	71.8 71.4	76.5 75.4
50	Proportion of all owner-occupied dwellings that are mortgage free	%	1991 1992	51.3 50.6	71.2 68.3	60.6 53.1	56.8 57.0	56.2 56.0
51	Dwellings in need of repair as a proportion of all occupied dwellings	%	1991 1992	24.5 26.7	30.5 31.1	27.7 28.2	31.9 34.3	34.7 32.4
*52	Median rent-to-income ratio	%	1991 1992	21 22	16 16	23 23	21 22	20 19

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										45
14.5	9.8	14.4	14.0	12.9	11.9	..	..	1990	%	
15.9	11.2	17.1	13.4	13.1	11.1	..	..	1991	%	
44.0	28.5	35.7	29.3	32.6	31.0	..	..	1990	%	
44.2	31.8	38.2	34.5	33.4	35.7	..	..	1991	%	
18.0	11.7	17.8	16.6	15.4	14.6	..	..	1990	%	
19.2	13.5	21.1	17.1	15.9	15.1	..	..	1991	%	
18.1	14.7	22.0	20.4	18.3	16.9	..	..	1990	%	
19.7	17.0	26.9	21.0	18.7	14.5	..	..	1991	%	
28.8	15.8	19.8	10.0	19.2	18.0	..	..	1990	%	
26.1	18.0	21.4	11.0	18.7	20.7	..	..	1991	%	
2,618	3,585	389	359	898	1,225	..	..	1991	'000	46
2,656	3,647	396	359	912	1,278	..	..	1992		
40,500	50,600	40,500	38,200	46,200	47,100	..	..	1990	\$	47
41,600	51,500	39,700	39,600	48,700	46,000	..	..	1991		
										48
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
69.1	76.8	71.2	69.4	78.4	73.3	..	..	1992	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
72.9	77.7	75.5	81.3	81.0	73.6	..	..	1992	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
20.9	27.9	22.2	21.7	28.4	25.0	..	..	1992	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
17.4	23.3	31.1	44.6	43.4	35.1	..	..	1992	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
14.0	48.6	49.0	34.3	10.0	7.5	..	..	1992	%	
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	49
55.0	63.9	67.4	71.6	65.5	65.7	..	..	1992	%	
47.5	50.2	55.3	63.1	48.8	52.0	..	..	1991	%	50
47.3	48.0	56.2	60.3	47.9	54.5	..	..	1992	%	
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	51
25.1	25.4	32.1	30.6	28.7	24.8	..	..	1992	%	
20	22	21	22	21	24	..	..	1991	%	52
20	23	23	21	21	25	..	..	1992	%	

See Notes and definitions at end of table.

## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>53 Labour force income profile</b>							
Number of taxfilers	'000	1990	18,450	372	86	606	496
Income:							
Number reporting	'000	1990	18,407	371	86	604	495
Amount	\$ million	1990	454,628	6,897	1,662	12,939	9,904
Median	\$	1990	19,100	13,800	15,400	16,500	15,300
Canadian index	%	1990	100.0	72.3	80.6	86.4	80.1
Labour force income:							
Number reporting	'000	1990	14,255	292	68	455	372
Amount	\$ million	1990	348,535	5,577	1,267	9,830	7,590
Employment income:							
Number reporting	'000	1990	14,028	279	67	445	363
Amount	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Median	\$	1990	19,300	10,700	11,800	16,300	14,300
Canadian index	%	1990	100.0	55.4	61.1	84.5	74.1
Self-employment income:							
Number reporting	'000	1990	1,874	31	12	52	35
Amount	\$ million	1990	20,724	238	104	660	344
Unemployment Insurance benefits:							
Number reporting	'000	1990	3,044	144	28	134	131
Amount	\$ million	1990	12,215	809	145	594	646
Canadian index	%	1990	100.0	467.2	355.4	177.1	256.5
<b>54 Economic dependency profile</b>							
Transfer payments:							
Amount	\$ million	1990	68,543	1,758	397	2,572	2,176
Employment income	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Economic dependency ratio (EDR)	%	1990	20.38	36.87	35.41	27.85	31.34
Canadian index	%	1990	100.0	180.9	173.7	136.7	153.8
Unemployment Insurance benefits:							
Amount	\$ million	1990	12,215	809	145	594	646
Contribution to EDR	%	1990	3.63	16.96	12.90	6.43	9.31
Family Allowance benefits:							
Amount	\$ million	1990	2,577	63	14	87	74
Contribution to EDR	%	1990	0.77	1.32	1.22	0.94	1.06
Federal sales tax credits:							
Amount	\$ million	1990	1,708	47	9	64	56
Contribution to EDR	%	1990	0.51	0.98	0.85	0.69	0.81
Child Tax Credit benefits:							
Amount	\$ million	1990	2,128	65	14	80	72
Contribution to EDR	%	1990	0.63	1.37	1.26	0.86	1.04
Old Age Security benefits:							
Amount	\$ million	1990	9,921	166	50	343	269
Contribution to EDR	%	1990	2.95	3.47	4.48	3.72	3.88
CPP/QPP benefits:							
Amount	\$ million	1990	12,008	176	49	435	306
Contribution to EDR	%	1990	3.57	3.70	4.41	4.71	4.41
Other pension benefits:							
Amount	\$ million	1990	16,164	203	60	590	386
Contribution to EDR	%	1990	4.81	4.25	5.34	6.39	5.55

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
4,693	6,888	757	642	1,660	2,202	18	30	1990	'000	53
4,681	6,873	756	640	1,656	2,198	18	30	1990	'000	
104,854	187,842	16,321	13,574	42,208	57,057	479	889	1990 \$ million		
17,400	21,400	16,800	16,300	19,500	20,000	22,800	21,600	1990	\$	
91.1	112.0	88.0	85.3	102.1	104.7	119.4	113.1	1990	%	
3,517	5,409	559	490	1,364	1,686	16	27	1990	'000	
81,426	144,240	11,878	9,602	33,255	42,637	426	807	1990 \$ million		
3,444	5,350	549	484	1,347	1,658	15	27	1990	'000	
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990 \$ million		
18,500	21,500	16,800	14,600	19,100	20,000	22,200	23,400	1990	\$	
95.9	111.4	87.0	75.6	99.0	103.6	115.0	121.2	1990	%	
340	675	101	137	239	248	2	2	1990	'000	
4,258	8,585	824	985	1,830	2,864	17	15	1990 \$ million		
942	889	103	82	221	360	4	5	1990	'000	
3,966	3,119	363	286	815	1,429	21	23	1990 \$ million		
141.0	60.9	86.8	84.6	69.1	95.6	146.6	80.2	1990	%	
17,488	25,075	2,979	2,401	5,003	8,576	46	71	1990 \$ million		54
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990 \$ million		
22.58	17.77	25.87	25.77	15.42	20.81	11.32	9.10	1990	%	
110.8	87.2	126.9	126.4	75.7	102.1	55.5	44.7	1990	%	
3,966	3,119	363	286	815	1,429	21	23	1990 \$ million		
5.12	2.21	3.15	3.07	2.51	3.47	5.32	2.91	1990	%	
633	913	111	110	267	295	3	8	1990 \$ million		
0.82	0.65	0.97	1.18	0.82	0.72	0.71	0.99	1990	%	
467	552	85	76	155	193	1	3	1990 \$ million		
0.60	0.39	0.74	0.81	0.48	0.47	0.35	0.37	1990	%	
555	647	111	116	226	232	2	8	1990 \$ million		
0.72	0.46	0.96	1.25	0.70	0.56	0.55	0.98	1990	%	
2,411	3,711	506	445	707	1,306	3	4	1990 \$ million		
3.11	2.63	4.40	4.78	2.18	3.17	0.72	0.54	1990	%	
2,835	4,824	523	454	849	1,549	4	4	1990 \$ million		
3.66	3.42	4.54	4.87	2.62	3.76	1.08	0.48	1990	%	
3,274	6,877	645	529	1,205	2,383	7	5	1990 \$ million		
4.23	4.87	5.60	5.68	3.72	5.78	1.63	0.67	1990	%	

See Notes and definitions at end of table.

## Key labour and income facts

### Notes and definitions

No.

- 1 Persons aged 15 and over who are employed or unemployed.
- 2 Labour force as a proportion of the population aged 15 and over.
- 4 Persons who usually work less than 30 hours per week.
- 7 Unemployed as a proportion of the labour force.
- 8 This rate, and rates shown as Indicators 9 and 10, are described in *Perspectives on labour and income* (Quarterly, Catalogue 75-001E), Winter 1992, pp. 35-43.
- 9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.  
  
The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.  
  
"On the margins of the labour force" includes persons not looking for work because they believe none is available or because they are waiting for recall or for replies from employers.
- 10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.

No.

- 29 Data are for agreements involving bargaining units of 500 or more employees. Canada figures include workers covered by federal labour legislation plus agreements involving workers in more than one province.
- 32 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, Workers' Compensation and Unemployment Insurance).
- 33 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent the entire reference week without pay.
- 45 For an explanation of the methodology underlying the low income cut-offs, see *Income distributions by size in Canada* (Annual, Catalogue 13-207).
- 53-54 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.

## *In the works*

*Here are some of the topics to be featured in upcoming issues of Perspectives on labour and income.*

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■ **The labour market: mid-year review**

A look at the labour market and other leading economic indicators during the first six months of 1993.

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■ **Work arrangements: an overview**

A summary of results from the Survey of Work Arrangements, highlighting paid workers' monthly, weekly and daily schedules. Reports findings on work arrangements such as home-based work, shiftwork, and temporary work.

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■ **Overtime**

Nearly 8% of employees worked paid overtime in November 1991. A profile of these workers is presented.

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■ **Flexitime work schedules**

Investigates the extent of "flexitime" work schedules among paid employees and the socio-demographic characteristics of such workers.

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■ **Employed parents and the division of housework**

Explores the extent to which couples share housework and how this arrangement varies according to the labour force status and other characteristics of the partners.

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■ **A note on the training of job losers**

Examines the training undertaken by workers aged 25 to 54 who have lost their jobs or been laid off. Also compares the characteristics of these trainees with those of unemployed job-losers who did not take training during the reference year.

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■ **Wage changes among unionized workers**

A note on the evolution of wage increases since 1979 among unionized workers by industry.

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**PERSPECTIVES ON LABOUR AND INCOME**  
**The quarterly for labour market information**



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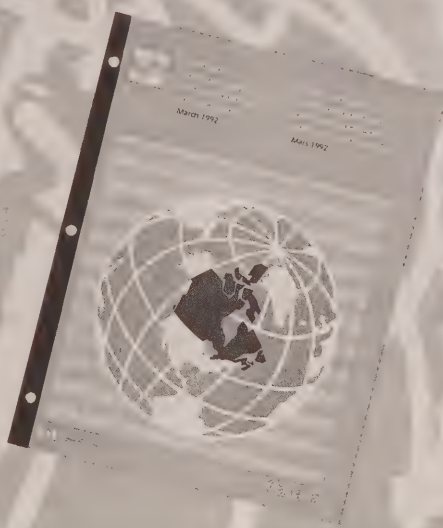
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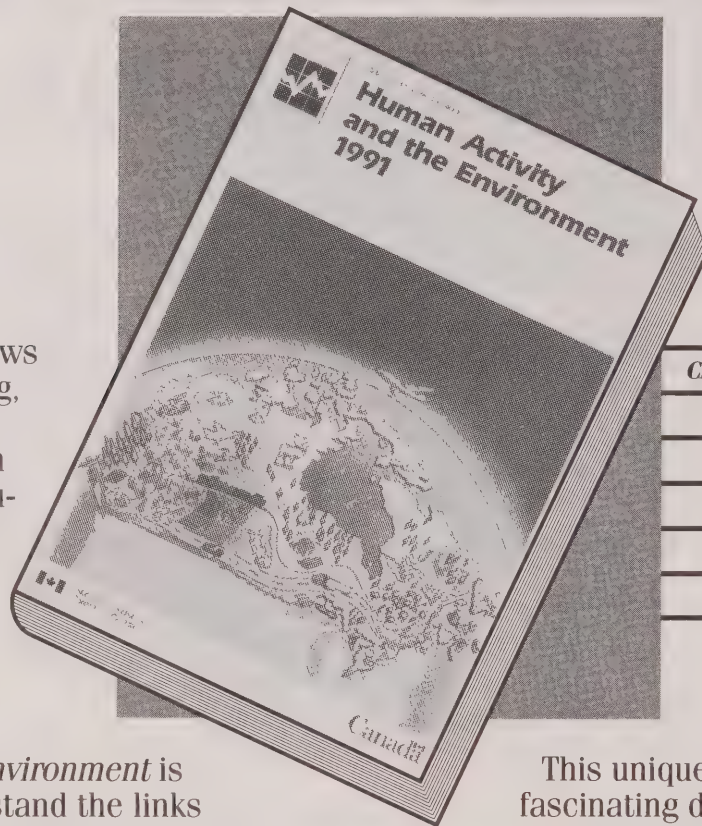
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## Symbols

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## Forum

### From the editor

■ Last April, Statistics Canada and Status of Women Canada jointly sponsored the International conference on the measurement and valuation of unpaid work. It attracted 170 participants from 10 countries and fostered discussion about both policy and methodology. The conference achieved one of its goals by providing Statistics Canada with ideas that will contribute to accelerating the development of methods for measuring and valuing non-market labour. Perhaps a less concrete, though no less important, outcome will be the continued exchange of information among so many people who might not otherwise have been introduced to each other and each other's work.

Why do we measure and attach value to unpaid work? Australian economist and statistician Duncan Ironmonger offered participants a vivid analogy, saying that "the total economy is a two-legged creature – one paid, the other unpaid – and we need both if we are to walk or run."

Statistics Canada has been working for some time on developing methods for measuring unpaid work – "to open up the other eye of our statistical binoculars" (to quote Dr. Ironmonger again). Since the mid-70s, the Agency has conducted a number of surveys related to child care, volunteer work and social support networks; it produces estimates of the value of household work (VHW), and actually released the third set

of VHWs just before the April conference; and it continues to wrestle with the formulation of questions on selected forms of unpaid work for the 1996 Census. The Agency intends to expand its efforts. And since no one can afford to re-invent wheels in these times of fiscal restraint, it was decided to gather people from a variety of backgrounds in a variety of countries and unabashedly appropriate their intellectual capital. As statisticians, we also wanted to consult the potential user community to make sure that the goals and direction we establish will produce data that meet their needs.

A large portion of conference time was spent in workshop discussions of methods and techniques as well as social and policy implications. Some of the consequences of establishing the value of unpaid work were unexpected, at least to the statisticians among us; for example, James Cassels, a law professor from Vancouver, discussed valuing unpaid work in the context of personal damage suits. (Recent rulings by the Supreme Court seem to indicate that the judiciary may be ahead of the citizenry in recognizing and appreciating the value of unpaid work in the home.)

Many participants agreed that an instrument fundamental to measuring unpaid work is the time use survey. By using a diary system to capture all of an individual's activities throughout a 24-hour period, it is possible to specify the time devoted to paid work as well as to such tasks as preparing

meals, caring for children and yardwork. Such surveys provide a bridge, hitherto missing, between paid and unpaid work. (For information on the General Social Survey, Cycle 7, Time Use Survey, see "What's New?", Summer 1993.)

Of course, much of the impetus for research into measuring and valuing unpaid work derives from the challenges faced by Canadian workers in balancing work and family responsibilities, that is, paid and unpaid work. In this issue, "Employed parents and the division of housework" looks at the way husbands and wives share household responsibilities, and whether the apportionment of tasks differs with various socio-economic characteristics. Author Katherine Marshall uses one of the surveys that mark Statistics Canada's pioneering efforts in quantifying unpaid work – the General Social Survey's Cycle 5 on social and family support, and Cycle 2 on time use.

The Survey of Work Arrangements (SWA) also indirectly assesses the impact of balancing work and family, by trying to determine the extent to which people juggle their work schedules to accommodate family responsibilities.

"Work arrangements of Canadians – an overview" highlights the survey's major findings – types of work schedules, temporary jobs lasting less than six months, union membership, rates of pay, multiple jobholding. Flexible work schedules are examined more closely in "Flexitime work arrangements", while "Paid overtime" looks at the characteristics of workers most likely to be paid for the extra hours they spend on the job. (Analysis of shiftwork data from the SWA, was published as "Working shift" in the Spring 1993 issue of *Perspectives*.)

Ian Macredie  
Editor-in-Chief



## Letter to the editor

■ We would like to compliment Mary Sue Devereaux for her fine article, "Alternative measures of unemployment," in the Winter 1992 issue of *Perspectives*. It was especially interesting to us because of our work on alternative indicators, and we have sent a copy to the economist in the Bureau of Labor Statistics who is rethinking our U-1 to U-7 structure.

Sincerely yours,

Edwin R. Dean  
Associate Commissioner for  
Productivity and Technology  
U.S. Bureau of Labor Statistics  
Washington, D.C.



**We welcome your views** on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-D Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6. Telephone (613) 951-0178; fax (613) 951-4179.



## Highlights

*Here are some key findings from the articles in this issue of Perspectives on Labour and Income.*

### **Work arrangements of Canadians – an overview**

■ This overview presents some of the findings from the November 1991 Survey of Work Arrangements. The information collected includes the weekly, daily, and hourly work routines of Canadians, and the incidence of flexitime, on-call work, home-based work, and moonlighting.

#### **Paid overtime**

■ About 800,000 Canadians, accounting for 8% of the employed population, were paid for overtime work in November 1991. This rate averaged 13% in the goods sector and 6% in services.

■ The highest incidence of paid overtime was found in mining, followed by manufacturing. The lowest rates occurred in education services; other services; accommodation, food and beverage services; and finance, insurance and real estate.

■ Nearly twice as many men as women worked paid overtime in November 1991: 520,000 versus 280,000. Overtime rates for men were higher than those for women in most industries.

■ The typical overtimer averaged nearly eight hours of paid overtime during the reference week in November 1991. About one in six worked less than 3 overtime hours, while a similar proportion worked 12 or more hours.

■ Most overtimers get premium pay. Seven in ten paid overtimers reported that they received either time and a half (61%) or double time (10%) for their extra work. Nearly 90% of unionized overtimers received premium pay, compared with 57% of non-unionized overtimers.

#### **Flexitime work arrangements**

■ In November 1991, an estimated 1.7 million employees aged 15 to 64 reported being on a flexitime work arrangement in their main job. (This arrangement exists when an employee is allowed to vary the beginning and end of the workday.)

■ Workers in the service industries were most likely to work flexitime. In finance, insurance and real estate almost one in three paid employees were on this schedule, and in public administration the ratio was about one in four.

■ The rate of flexitime was highest among managers and professionals (about one in four), and lowest for workers in processing, machining and fabricating jobs (about one in twenty).



■ The practice was most likely to be found among working lone parents and unattached individuals (20%), and least likely among single-earner husband-wife families (14%).

■ Flexitime work arrangements were most common among persons aged 25 to 44 (19%), especially among women in that age group. It was least prevalent (12%) among youths.

### **Employed parents and the division of housework**

---

■ In 1990, 71% of couples with children aged 18 or younger in the household were dual earners (both partners employed outside the home), in comparison with only 30% just over 20 years ago.

■ In most dual-earner families where both partners worked full time, the wife had primary responsibility (includes anticipating planning and organising) for housework. The majority (52%) of wives employed full time had all of the responsibility for daily housework, while 28% had most of this responsibility. Only 10% of these dual-earner couples shared household responsibilities equally; in the remaining 10%, the husband was in charge of most domestic chores.

■ The younger the partners, the less likely was the wife solely responsible for housework. The proportion of full-time, dual-earner wives under age 35 who were responsible for all daily housework was 47% compared with 69% among those aged 45 to 64.

■ The number of children in the household also had some bearing on the allocation of domestic responsibility. The percentage of wives in dual-earner couples with all responsibility for housework increased from 44% of those with one child at home to 83% of those with four or more children.

■ The educational attainment of both partners was also associated with the allocation of housework: the more educated the couple, the less likely was the wife to assume full responsibility for domestic chores. For instance, in 58% of households where the wife had less than high school graduation, she alone was responsible for daily housework; if she was a university graduate, the corresponding figure was 45%.

### **C/QPP costs and private pensions**

---

■ When the Canada and Quebec Pension Plan (C/QPP) was introduced in 1966, a few employers terminated their own registered pension plans (RPPs), while most integrated their plans with the C/QPP. Also, some employees discontinued their RPP membership, because of the C/QPP contribution requirement.

■ The combined employee and employer contribution rate for the C/QPP has increased annually, from 3.6% in 1986 to 5% in 1993. Furthermore, a contribution schedule, currently legislated for the CPP, has projected a rate of 10.1% by 2016.

■ While participation in the C/QPP is mandatory for virtually all workers aged 18 and older, RPPs are largely provided at the employers' discretion. The higher contributions legislated for the C/QPP may have an impact on the establishment of new RPPs or the continuation of some of those now in existence.

### **A note on wage trends among unionized workers**

---

■ The wage increases of unionized workers covered under major collective agreements (500 or more employees) just barely kept ahead of inflation between 1979 and 1992, averaging 6.5% compared with an average inflation rate of 6.2%.

## What's new?

---

■ Highlights of the Survey of Persons Not in the Labour Force (NLF), a supplement to the Labour Force Survey, were released in April 1993. In addition to demographic and socio-economic characteristics, NLF data cover variables such as current non-labour market activities, the education and job plans of youths neither working nor attending school, and reasons for early retirement.

■ In September, Statistics Canada, in collaboration with Labour Canada, will host a one-day symposium to discuss the complex issue of balancing work and family responsibilities. It will draw on the experiences of policy makers, human resource managers, union representatives, and workers.

■ Statistics Canada and Status of Women Canada jointly hosted a conference last April to discuss measuring and estimating the value of work done outside the traditional market economy. A summary report on the "International conference on the measurement and valuation of unpaid work" will soon be available.

■ The Canadian Employment Research Forum and the Business and Labour Market Analysis Group of Statistics Canada jointly sponsored a conference last March on labour market behaviour during the last two recessions. Papers were presented by labour market analysts from academia as well as the public sector. □

# Work arrangements of Canadians – an overview

Ernest B. Akyeampong and Jason Siroonian

Until recently, data on work arrangements were collected only sporadically by various private and public agencies. As a result, limited information existed on the weekly, daily and hourly work routines of Canadians: the incidence of shift work, flexitime, on-call work, working from home, and moonlighting. The need for comprehensive information at the national level prompted Statistics Canada to conduct the Survey of Work Arrangements (SWA).

The SWA, a supplement to the November 1991 Labour Force Survey, gathered data on the above issues. Other information collected included rates of pay, union membership, paid overtime, and temporary employment. Combined with data on the personal and family characteristics of workers, the SWA database offers a wealth of detail on these issues, as well as on the broader topic of balancing work and family responsibilities.

Only paid workers (those working for a wage or salary) were interviewed for the SWA. The self-employed were excluded because they have wider control over their work schedules than do paid workers. The exclusion of the self-employed has the effect

of understating the overall prevalence of some work arrangements, such as moonlighting and home-based work.

Although the SWA collected data on second jobs, this note focuses on the main job of paid workers aged 15 to 64 who were employed in November 1991.

Table 1  
Usual work schedules of paid workers,  
November 1991

	'000	%
<b>Paid workers aged 15 to 64</b>	<b>10,332</b>	<b>100</b>
Weeks per month usually worked		
1-3 weeks	155	2
4 weeks	10,151	98
Days per week usually worked		
1-4 days	1,446	14
5 days	7,279	70
6-7 days	438	4
It varies	1,160	11
Weekly schedule		
Monday to Friday	6,240	60
Other schedules	1,545	15
It varies	2,515	24
Daily schedule		
Regular daytime	7,250	70
Shift schedules	3,082	30
Evenings	508	5
Nights	142	1
Rotating shifts	940	9
Split shifts	84	1
On call	262	3
Irregular schedules	1,064	10
Other	82	1

Source: Survey of Work Arrangements

Note: Estimates may not sum to the total due to rounding and non-response.

*Ernest B. Akyeampong is with the Labour and Household Surveys Analysis Division. He can be reached at (613) 951-4624. Jason Siroonian was formerly with the same division.*



## Work schedules

Of the 10.3 million paid workers in Canada, almost all (98%) stated that they usually worked four weeks per month. In addition, 60% had Monday to Friday schedules. On the other hand, 15% had some other regular schedule and 24% had schedules that varied the days worked from week to week (Table 1).

Most workers had a regular daytime schedule (70%). The next most common daily schedules were irregular (10%) and rotating shifts (9%). On-call work was reported by a little over a quarter of a million workers (3%). This group was equally split between men and women, but consisted mostly of part-time workers (Sunter, 1993).

Working on weekends was not uncommon. About one million workers usually worked on Saturdays, and about half a million, on Sundays.

About 6% of workers performed some or all of their regularly scheduled hours of work at home. Most of these workers held jobs with the following occupations: managerial and professional, clerical, sales, and service. For the majority (52%) of them, this work-at-home arrangement was a requirement of the job.

Paid overtime during the week before the survey was reported by 8% of workers. Two out of three of these overtimers were male (Cohen, 1993).

Overall, 5% of workers had a temporary job, that is, one lasting six months or less. Part-time workers (10%) were more likely than full-time workers (4%) to have temporary jobs.

## Data in many forms ...

In addition to the ones in this issue, other articles on work arrangements are planned.

A statistical compendium, *Work Arrangements* (Catalogue 71-535 no. 6), will be available in the fall. This publication will contain detailed statistical tables from the SWA. For further information, or to order *Work Arrangements*, contact your nearest Statistics Canada Reference Centre or Marketing Division, Sales and Service, Statistics Canada, Ottawa, K1A 0T6.

A public-use microdata file of SWA survey results, costing \$500.00, is also available. To order this file, contact Mike Sivyer at (613) 951-4598, fax: (613) 951-0562.

About one-sixth of workers reported a flexitime arrangement that permitted, within limits, varying start and end times for their work day (Akyeampong, 1993).

## Other findings

Just over one-third (35%) of workers were union members or held jobs that were covered by a union contract or collective agreement. Construction trades workers recorded the highest rate of unionization (53%) whereas only 9% of sales workers were unionized.

Over 360,000 individuals had second jobs for which they received a wage or salary. For one-third of these workers, the main reason for moonlighting was to meet regular household expenses.

For more information about the survey, contact Ernest B. Akyeampong (613) 951-4624, Labour and Household Surveys Analysis Division. □

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# Paid overtime

Gary L. Cohen

**D**o you ever work extra hours, and when that happens, do you get extra pay to compensate for the added time on the job? If you do, you are not alone; paid overtime is part of the job for more than three-quarters of a million Canadian workers.

For employers, overtime may be a convenient, perhaps essential, method of handling the fluctuations of production or delivery schedules, as the costs (even at premium rates of pay) may be lower than those that would arise from hiring more workers. For employees, paid overtime may be a mixed blessing: while it offers an opportunity for additional income, it can also be an undesirable aspect of the job, especially when it is mandatory or unpredictable.

This article uses data from the Survey of Work Arrangements (SWA)<sup>1</sup> to describe the 800,000 employees aged 15 to 64 who worked paid overtime in November 1991. (See *Was November 1991 a typical month for paid overtime?*)

## It depends on where you work ...

Paid overtime has traditionally been associated with the goods-producing sector,<sup>2</sup> at least, in part, because there the costs of

production and the value of outputs are more easily quantified. In fact, while the overall incidence or rate<sup>3</sup> of paid overtime in November 1991 was 8%, it averaged 13% in the goods sector but just 6% in the service sector.<sup>4</sup>

The highest incidence was in mining, followed by manufacturing. The lowest rates occurred in education services; other services; accommodation, food and beverage services; and finance, insurance and real estate. Not all service industries, however, had low rates: communication and other utilities, transportation and storage, and wholesale trade all had above-average rates of paid overtime (Table 1).

## your work status ...

A closer look at the data shows that industries with a relatively large share of full-time workers generally had higher rates of paid overtime, whereas rates tended to be low in industries where part-time work was more common.<sup>5</sup> In fact, about 90% of overtimers in November 1991 reported that they were full-time workers (employees with a regular or usual workweek of 30 hours or more). These observations suggest that firms in industries with a large proportion of part-time workers can often meet fluctuating production demands by increasing the hours worked by these part-timers, rather than by requiring overtime from their full-time workers.

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Table 1  
Employment characteristics by industry, November 1991

	Total employed	Proportion who are			Incidence of	
		Women	Part- timers	Union members	Paid overtime	Premium pay*
	'000			%		
<b>All industries</b>	<b>10,332</b>	<b>48</b>	<b>17</b>	<b>35</b>	<b>8</b>	<b>71</b>
Agriculture, forestry and fishing	168	31	16	13	--	--
Mining	154	15	--	40	18	91
Manufacturing	1,731	29	4	38	14	86
Construction	455	13	7	32	9	62
Transportation and storage	406	20	11	53	10	85
Communication and other utilities	411	36	7	63	13	83
Wholesale trade	466	32	7	12	9	70
Retail trade	1,345	54	34	13	6	44
Finance, insurance, real estate operators and insurance agents	636	64	12	9	5	--
Business services	465	50	11	6	7	49
Government services	830	45	6	71	8	91
Education services	906	61	18	71	2	--
Health and social services	1,146	81	27	54	6	62
Accommodation, food and beverage services	695	61	45	8	5	46
Other services**	518	60	29	13	4	65

Source: Survey of Work Arrangements

\* Among paid overtimers who reported their rate of pay.

\*\* Consists mainly of amusement and recreation services plus personal and household services.

The overall incidence of paid overtime among full-time workers was greater than that for part-time workers: 8% compared with 5%. There were, however, some 82,000 part-timers who worked paid overtime; three-quarters of them were women, and nearly half were employed in retail trade or in health and social services. In these two industries, the rates of paid overtime were similar for full- and part-time workers.

#### and union membership

Among men, the incidence of paid overtime was much higher for union members (13%) than for workers who were not unionized (8%). Even within highly unionized industries such as government services, communication and other utilities, and transporta-

tion and storage, male union members were more likely than their non-unionized counterparts to work paid overtime. In contrast, the overtime rate for female union members was slightly below that of non-unionized female workers.

#### Who works paid overtime?

Nearly twice as many men as women worked paid overtime in November 1991: 520,000 versus 280,000. As a result, the incidence of paid overtime among male workers was 10%, compared with 6% for female workers. Overtime rates for men were higher than those for women in most industries; for example, in manufacturing the rate for men was 15% compared with 12% for women.<sup>6</sup>

Some 35% of male overtime workers worked in manufacturing, followed by government services (9%), communication and other utilities (8%), and construction (7%). Female overtime workers, on the other hand, were most commonly employed in manufacturing (22%), health and social services (19%), and retail trade (15%).

The incidence of paid overtime peaked among workers aged 25 to 34 at 12% for men and 7% for women. For men, the lowest rate of paid overtime was among those aged 55 to 64 (7%), while for women, the lowest rate was at ages 15 to 24 (4%) (Chart A).

Both male and female workers who were the only wage-earner in their family had higher-than-average rates of paid overtime. As well, men in dual-earner families with children under 6 years had a relatively high overtime rate.<sup>7</sup>

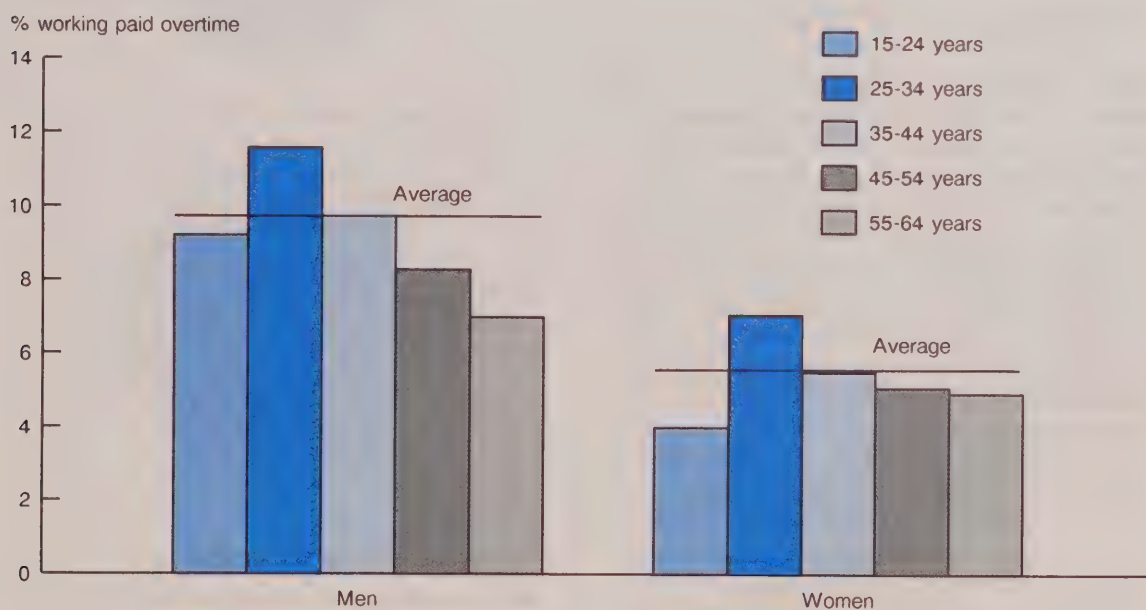
## How many overtime hours?

The typical overtime worker averaged nearly eight hours of paid overtime during the reference week in November 1991.<sup>8</sup> About one in six worked less than 3 overtime hours, while a similar proportion worked 12 or more (Chart B). Overtime workers in construction, finance, insurance and real estate, and mining put in the most overtime, averaging 11 or more hours.

Average overtime hours were higher for men (8.4) than for women (6.7). Male overtime workers were more likely than women to work 12 or more extra hours (21% versus 12%), while women were more likely to work less than 3 overtime hours (22% versus 14%).

Chart A

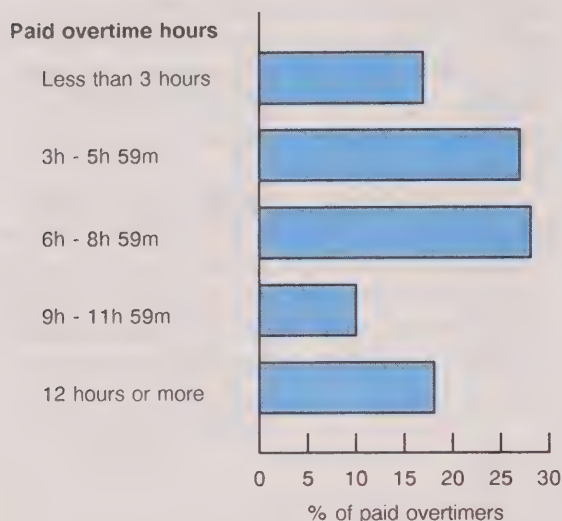
In November 1991, 25 to 34 year-olds were the most likely to work paid overtime.



Source: Survey of Work Arrangements

Chart B

One in six paid overtime workers worked 12 or more extra hours per week in November 1991.



Source: Survey of Work Arrangements

## Premium pay – the union factor

Most overtime workers get premium pay. More than 70% of paid overtime workers reported that they received either time and a half (61%) or double time (10%) for their extra work.<sup>9</sup> Premium pay was most prevalent in highly unionized industries: mining, government services, manufacturing, transportation and storage, and communication and other utilities. In fact, 89% of unionized overtime workers received premium pay for their efforts, compared with just 57% of non-unionized overtime workers.

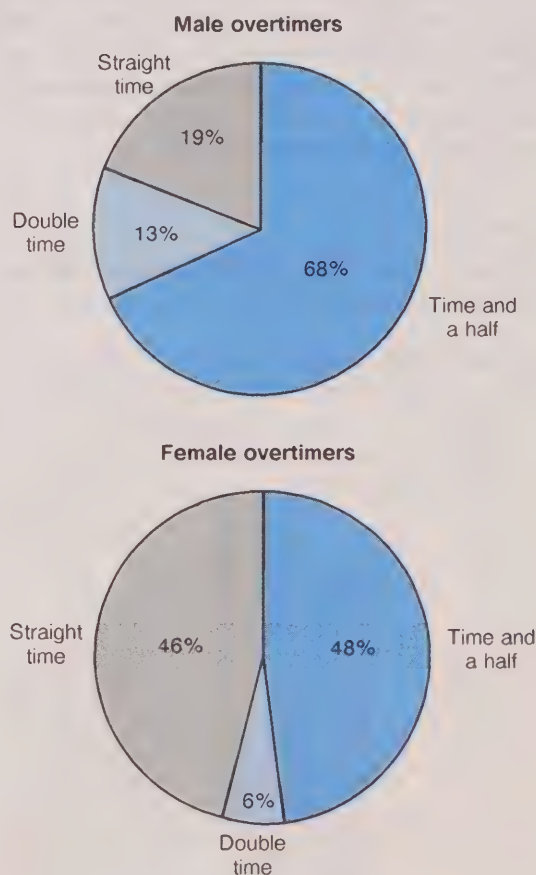
Premium pay was less common in some parts of the service sector: fewer than half of overtime workers in retail trade, accommodation, food and beverage services, or business services reported premium pay.

Men were much more likely than women to receive premium pay for overtime:

81% compared with 54% (Chart C). To some extent, this is attributable to the concentration of men in industries with an above-average incidence of premium pay. But this disparity also reflects the fact that more than three-quarters of full-time workers received premium pay, compared with hardly any part-timers.

Chart C

In November 1991, men were much more likely than women to receive premium pay.



Source: Survey of Work Arrangements

Note: Includes only those respondents (86%) who gave their rate of pay for overtime work.



### Unpaid overtime?

Although the Survey of Work Arrangements (SWA) did not cover unpaid overtime, an estimate can be derived from the Labour Force Survey (LFS), which measures both usual (regular or normal) and actual weekly hours worked.

According to the November 1991 LFS, 1.1 million paid workers indicated that their actual hours surpassed their usual hours. However, only about 50% of these workers reported paid overtime on the SWA. This suggests that the remaining 50%, or some 500,000 workers, may have been putting in unpaid overtime.

It appears that women are somewhat more likely than men to work unpaid overtime. Just 43% of women whose actual hours exceeded their usual hours reported paid overtime on the SWA; the comparable figure for men was 54%. Unpaid overtime, by this definition, was most common in education services and other services; it was least prevalent in mining, and in communication and other utilities.

### Summary

In any given week, at least 800,000 Canadians work overtime for pay. (And they may number as many as one million.) On average, these overtimers put in nearly 8

### Was November 1991 a typical month for paid overtime?

On the basis of the monthly patterns of actual and usual hours worked, as compiled by the Labour Force Survey (LFS), paid overtime reported for November 1991 may have been somewhat below the average for a typical month in 1991.

In November 1991, about 10% or 1.1 million paid workers reported to the LFS that their actual weekly hours exceeded their usual weekly hours, while the SWA counted some 800,000 paid overtimers. But for 1991 as a whole, about 12% of paid workers reported that their actual weekly hours exceeded their usual weekly hours.<sup>10</sup> The close relationship between extra hours worked and paid overtime suggests, therefore, that in a typical month some 950,000 workers put in paid overtime.

extra hours per week. Paid overtime is most common in industries where full-time work is prevalent, and for men, where the rate of unionization is higher-than-average. Accordingly, men are more likely than women to work paid overtime. Most overtimers, especially those who are unionized, receive premium pay, usually time and a half. □

### Notes

<sup>1</sup> The Survey of Work Arrangements (SWA) was conducted in November 1991 as a supplement to the monthly Labour Force Survey (LFS). The SWA collected data on work schedules (such as days of the week, time of day, and flexible hours), on non-standard work arrangements (such as working at home, paid overtime, and moonlighting), and on union membership. Data about paid overtime refer only to the main job of paid workers. The SWA did not ask if the overtime was voluntary or if it was an expected (or required) part of the job. Similarly, respondents were not asked why they worked overtime.

<sup>2</sup> For this article, the goods-producing sector was defined as the primary industries (agriculture, forestry, fishing, and mining) plus manufacturing and construction. The service sector, therefore, comprised transportation and storage; communication and other utilities; wholesale trade; retail trade; finance and insurance; real estate operators and insurance agents; business services; government services; education services; health and social services; accommodation, food and beverage services; and other services. Industry

data were based on the Standard Industrial Classification, 1980.

<sup>3</sup> The incidence or rate of any activity, such as paid overtime, measures the proportion of a group who participated in that activity.

<sup>4</sup> As might be expected, rates of paid overtime by occupation mirrored those by industry; that is, the highest rates were in occupations related to industries that had high rates: other crafts (18%), transport equipment operating (15%), material handling, processing, and other primary (all 14%). As well, nearly 10% of employees in natural science, engineering and mathematics occupations were overtimers. On the other hand, just 4% of managers and administrators worked paid overtime in November 1991. Occupation groupings were based on the Standard Occupational Classification, 1980.

<sup>5</sup> Education services seems to be an exception to this pattern, as it coupled a very low rate of paid overtime with just an average share of part-time work. But extra unpaid hours are often an expected part of employment in this industry (Cohen, 1992).

## Notes – concluded

<sup>6</sup> About one-third of the difference between paid overtime rates for men and women is attributable to the fact that women tend to be employed in industries with lower-than-average rates of paid overtime.

<sup>7</sup> In the LFS, a family refers to a group of two or more persons who live in the same dwelling and are related by blood, marriage (including common-law), or adoption.

<sup>8</sup> Strictly speaking, the "overtimers" described in this article were paid for working extra hours during the reference week of the November 1991 LFS (November 10-16, 1991). It is assumed in monthly surveys that the reference week is a reasonable representation of the entire month, but obviously, the overtime reported (an average of 7.8 hours per overtimer) refers only to that one-week period.

<sup>9</sup> This analysis was based on the 86% of respondents who replied "straight time, time and a half, or double time" to the question about their rate of pay for overtime work. Some respondents did not answer the question, while others provided replies that did not fit these categories.

<sup>10</sup> This "annual average" was based on data covering 11 months; October was excluded from the calculations because the level for that month was some 40% below average, reflecting the Thanksgiving holiday during the reference week. (The Remembrance Day holiday occurred during the November reference week, but as relatively few workers get this holiday, it likely had little impact.)

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# Flexitime work arrangements

Ernest B. Akyeampong

**T**he Canadian labour market has undergone a number of dramatic transformations in the last few decades. Notable among these are the tremendous growth in the number of working mothers, the expansion of the service sector, and the increased use of computers. As a result of these and other labour market dynamics, work arrangements have also been changing. Work schedules other than the traditional, and still popular, nine-to-five work pattern are emerging. One of these is the flexible work schedule, often referred to as "flexitime."

In November 1991, an estimated 1.7 million employees, accounting for 16% of the paid workforce aged 15 to 64, reported being on a flexitime work arrangement in their main job. These data come from Statistics Canada's Survey of Work Arrangements (SWA), the first comprehensive national survey on the work routines and schedules of Canadians, conducted in November 1991. A fuller description of this survey, as well as summary findings, appears in another article in this issue (Akyeampong and Siroonian, 1993).

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## Flexitime – what is it?

A flexitime work arrangement exists when an employee is allowed to vary, within certain limits, the beginning and end of the workday. In some enterprises, for example, those using assembly line production techniques, this option may be limited. But in others, such as those providing personal services, constraints on work schedules may be minimal or non-existent; however, even in these circumstances, there usually are some working hours, often referred to as "core hours," during which an employee must be on the job.

Many types of flexible schedules now exist. A flexitime arrangement may involve a detailed formal document spelling out rules and procedures, or it may be an informal agreement between the supervisor and the employee. In some of these arrangements, employees can modify the time they begin work and the time they leave every day. In other instances, they can accumulate extra work hours during a given period, which are subsequently taken as leave later on. A common thread in all flexitime arrangements is that the "core hours" requirement must be respected on the days worked.<sup>1</sup>



## Flexitime – advantages and disadvantages

A flexitime work arrangement benefits both the employee and the employer. For some employees, especially working parents, such an arrangement can help balance work and family responsibilities such as child or elder care. It can also help commuters avoid time-consuming and stressful rush-hour traffic, and provide workers with larger blocks of "leisure" time.

The arrangement has many advantages for employers as well. Such schedules can help curb lateness and absenteeism, and even increase motivation at work. Also, it is often argued that flexitime schedules can increase efficiency by permitting the scheduling of activities to coincide with the ebb and flow of the workload.

Flexible work schedules have some disadvantages, however. Under this work arrangement, managers have the uneasy task of ensuring an optimal work flow and the coverage of critical functions; they are also often faced with the additional costs of increased supervision needed to ensure that the required hours are worked by employees. Finally, flexitime schedules can increase some overhead costs such as heating and cooling, since a building's environment must be maintained over the course of a longer working day.

## Who works flexitime and where?

The foregoing discussions imply that variations exist in the incidence or rate of flexitime across industries, occupations and demographic characteristics of the workers themselves. These variations are examined below.

## Industry and occupation variations

Flexitime work arrangements were most common among workers in the service industries. In finance, insurance and real estate, almost one in three paid workers were on this schedule, and in public administration, the ratio was about one in four (Table 1). The high incidence of flexitime in these two industries is linked to the high variations in the daily workload which are dictated mostly by customer convenience. Female workers in finance, insurance and real estate were less likely than their male counterparts to work flexitime (25% vs. 43%), while in public administration the reverse was true (31% vs. 22%).

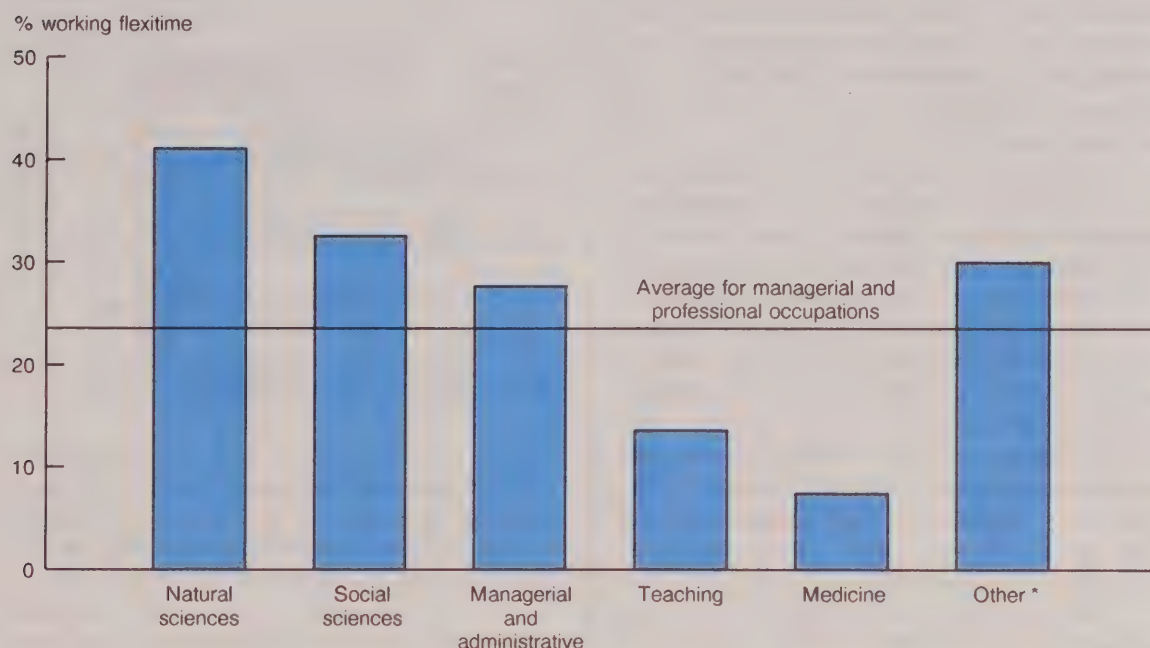
Table 1  
Incidence of flexitime by industry,  
November 1991

	Paid workers on flexitime schedule	Percent of all paid workers
	'000	%
<b>All industries</b>	<b>1,669</b>	<b>16.4</b>
Goods-producing industries	301	12.2
Agriculture and other		
primary	57	18.0
Manufacturing	193	11.3
Construction	51	11.3
Service-producing industries	1,367	17.7
Transportation, communi- cation and other utilities	124	15.4
Trade	242	13.6
Finance, insurance and real estate	198	31.4
Community, business and personal services	592	16.0
Public administration	210	25.9

Source: *Survey of Work Arrangements*

Chart A

Teachers and medical professionals were the least likely to work flexitime.



Source: Survey of Work Arrangements, November 1991

\* Consists of religious, artistic, literary and recreational occupations.

The flexitime schedule was least used by workers in the goods-producing industries where adherence to optimal work flow is critical. Indeed in manufacturing and in construction, only one out of every nine paid workers enjoyed this work arrangement.

The chance of being on a flexitime schedule was almost three times as high among "white-collar" workers (20%) than among "blue-collar" workers (7%). Among the major occupational groups, the choice of varying work hours ranged from a high of about one in four persons in managerial and professional occupations to a low of one in twenty for workers in processing, machining and fabricating jobs (Table 2).

Table 2

Incidence of flexitime by occupation, November 1991

	Paid workers on flexitime schedule	Percent of all paid workers
	'000	%
<b>All occupations</b>	<b>1,669</b>	<b>16.4</b>
White-collar	1,476	19.7
Managerial and professional	791	23.6
Clerical	352	18.2
Sales	188	22.4
Services	145	10.5
Blue-collar	192	7.1
Processing, machining and fabricating	69	5.5
Other*	123	8.5

Source: Survey of Work Arrangements

\* Consists of primary, construction, transport equipment operating, material handling and other crafts.

## Demographic variations

The likelihood of an employee working a flexitime schedule varied by sex, age, marital and family status. However, the differences in flexitime rates by these demographic profiles were not as large as those recorded across industries and occupations.

Women very slightly outnumbered men among the 1.7 million employees who reported being on a flexitime work schedule in November 1991 (850,000 versus 819,000). The incidence or rate of flexitime work arrangement was also marginally higher among women: about 17% of women compared with 16% of men had such a work schedule (Table 3).

Flexitime work arrangements were most common among workers aged 25 to 44 (19%), especially among working women in that age group. It was least prevalent (12%) among youths (15 to 24 years).

The likelihood of working a flexitime schedule also varied by marital status and

Table 3

### Incidence of flexitime by sex and age, November 1991

	Paid workers on flexitime schedule	Percent of all paid workers
	'000	%
<b>Both sexes, all ages</b>	<b>1,669</b>	<b>16.4</b>
Men	819	15.5
Women	850	17.2
15-24 years	220	11.7
25-44 years	1,080	18.6
Men	528	17.7
Women	552	19.4
45-64 years	369	14.7

Source: Survey of Work Arrangements

family circumstances. Widowed, separated or divorced persons recorded the highest rates, at around one in five workers, while single (never-married) persons registered the lowest, at one in seven (Table 4).

The practice was more common among unattached individuals and lone

Table 4

### Incidence of flexitime by marital and family status, November 1991

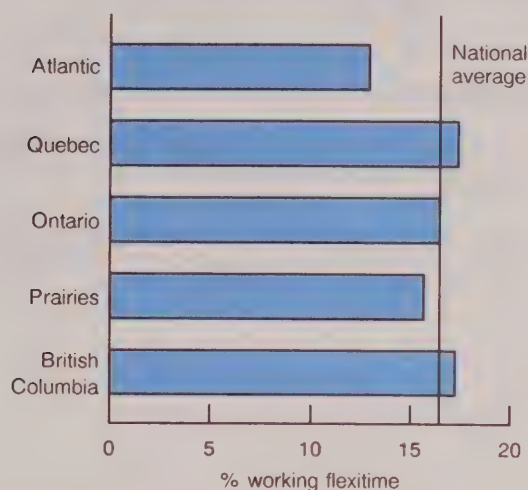
	Paid workers on flexitime schedule			Percent of all paid workers		
	Both sexes	Men	Women	Both sexes	Men	Women
	'000			%		
<b>Marital status</b>						
Married	1,083	533	550	16.7	15.7	17.8
Single	437	226	211	14.9	14.3	15.5
Widowed/separated/divorced	149	60	88	19.1	20.0	18.6
<b>Family status</b>						
Unattached individuals	297	152	145	19.8	19.6	20.0
Dual-earner husband-wife families	866	383	483	17.8	16.8	18.7
With at least one child under 6 years	240	110	130	19.4	18.6	20.0
Single-earner husband-wife families	194	140	55	13.5	13.8	12.8
Lone-parent families	77	18	59	19.8	24.6	18.7
Other families	235	126	109	11.6	11.1	12.3

Source: Survey of Work Arrangements



Chart B

**Flexitime was least prevalent in Atlantic Canada.**



Source: Survey of Work Arrangements, November 1991

parents (20%) and less frequent among husband-wife families in which only one spouse worked outside the home (14%). About one in six workers in dual-earner couples had a flexible work arrangement, but in dual-earner families with at least one pre-school age child, the practice was marginally more common, at one in five.

### Other characteristics of flexitime workers

The likelihood of working a flexitime schedule was slightly higher among part-time workers (18%) than among full-timers (16%). Also, persons who worked on a regular daytime shift tended to have more flexibility to vary their work hours (17%) than those working other shifts (14%) (Sunter, 1993). For persons working more than five days during the week, the chance of being on flexitime was even greater, at about one in three. Not surprisingly, a flexitime

schedule appears to be less frequent among people who work overtime. Of the 800,000 employees who reported paid overtime during the survey reference week in November 1991, only 12% were on flexitime work arrangements (Cohen, 1993).

The incidence of flexitime work schedules was lower among union members (12%) than among non-union members (19%). But the difference appears to be partly explained by the fact that unionized workers tend to predominate in industries with lower than average flexitime rates (for example, manufacturing and construction).

The likelihood of working a flexitime schedule in a second job was also much higher than in the first. One-third of the 359,000 multiple jobholders who were paid workers in their second job enjoyed this work arrangement, compared with one-sixth of paid workers in their main job.

### Future prospects

It is difficult to conclude from the SWA data whether flexitime work schedules are more prevalent today than in past years and by how much, since no comparable historical data exist. However, three factors point to future growth of this work arrangement. First, U.S. data show that the incidence of flexitime among full-time employees increased from 12% in May 1985 to 15% in May 1991 – the comparable Canadian rate in November 1991 was a bit higher, at 16%. Second, this work arrangement has been shown to be more typical among workers in the service sector and in white-collar occupations, two areas that are expected to see further expansion in the future. Third, discussions on balancing conflicting family and work responsibilities have taken centre stage in recent years. In these debates, increased use of the flexitime work schedule is being put forward as one possible solution to the problem. □

## Note

<sup>1</sup> The question used in the Survey of Work Arrangements to elicit information on flexitime reads as follows:

"Is ... on a flexible schedule that allows workers to choose the time they begin and end their work day?"

Yes .....

No .....

Don't know ..... "

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# Employed parents and the division of housework

Katherine Marshall

**W**hile the division of labour in the paid workforce has been given much attention, the division of labour at home has received less scrutiny. This issue is of particular concern to women because they have traditionally been responsible for housework, and now the majority of them are also facing the demands of a job outside the home. One of the central questions is how, in the midst of employment and parenting responsibilities, families manage domestic chores.

Results of Statistics Canada's 1990 General Social Survey (GSS)<sup>1</sup> show that dual-earner couples employed full time outside the home are the most likely to share responsibility for housework. Yet even for them, the allocation of household chores is far from equal. Sharing tends to be most common among younger, well-educated couples with few children. The likelihood of shared responsibility increases as the wife's income level rises. As well, the partners' satisfaction with several dimensions of their lives seems to be related to the way they divide responsibility for housework.

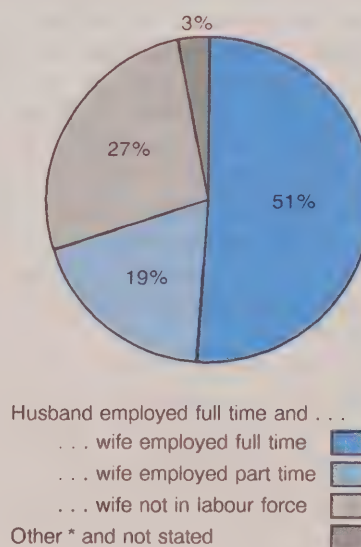
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## Most couples are dual-earners

The balancing of family and job obligations has become a challenge for more Canadian couples than ever before. In 1990, 71% of couples with children aged 18 or younger in the household were dual-earners (both partners had at least some employment outside

Chart A

The majority of parents worked full time.



Source: General Social Survey, 1990

\* Includes other work statuses of husbands and wives.



the home); by contrast, just over 20 years ago, only 30% of such families were dual-earners.<sup>2</sup>

In 1990, both the wife and the husband were employed full time in 51% of two-parent families. In 19% of two-parent families, the husband worked full time, and the wife, part time (Chart A). Single-earner families, in which the husband was employed full time and the wife was at home full time, accounted for 27%.<sup>3</sup>

## Traditional division of labour

The 1990 GSS showed that the assignment of housework tends to follow traditional patterns. For the purposes of this paper, housework refers to meal preparation, meal clean-up, and cleaning and laundry (see *Defining and measuring housework*). Women are likely to assume primary responsibility for these routine tasks, which must be performed on a regular basis and which account for 78% of all housework (see *Time use*). On the other hand, men tend to be responsible for repairs, maintenance, and outside work, tasks that must be accomplished less frequently (see *A man's job*). Because the 1990 GSS did not ask direct questions about the responsibility for child care, this activity is not directly analysed in this article. However, the population studied consists only of couples with children at home, and it is generally accepted that children in a household increase the amount of housework.

The extent to which wives are responsible for housework varies with their employment status. As wives' involvement in the workforce increases, their responsibility for housework declines, but their husband's contribution does not increase enough to approach parity (Table 1). For example, 89% of wives who were not in the labour force were solely responsible for meal

## Defining and measuring housework

The data on household work come from Statistics Canada's 1990 General Social Survey on Family and Friends. One section of the questionnaire pertained to four household chores: meal preparation; meal clean-up; house cleaning and laundry; and house maintenance and outside work such as repairs, painting, carpentry, lawn mowing, and snow removal. For each chore, respondents were asked three questions: 1) who in the household helped with it; 2) how much of the work each person did; and 3) who was primarily responsible for the chore. Multiple responses were allowed for the last question only if the primary responsibility was shared equally.

This article is mainly concerned with the third question – primary responsibility for each chore – because responsibility goes beyond the actual performance of a task to include anticipating, planning, and organizing what needs to be done. It encompasses the management of time, people, and resources. Nonetheless, responsibility for, and actual time spent doing housework are highly correlated.

One respondent reported for all members of each household. Therefore, the data reflect that respondent's perception of how the chores were divided in his or her home. Regardless of who was interviewed, wives were generally acknowledged as having primary responsibility for domestic chores. Not unexpectedly, however, husbands collectively tended to see themselves doing more than wives perceived them doing, and vice versa. For instance, 15% of husbands in full-time, dual-earner families reported that they had sole responsibility for meal preparation, whereas only 10% of wives reported that their husbands were solely responsible for these duties.

For most variables these differences did not matter, as the results were based on the full sample and, therefore, show the averaging of male and female reporting. The single exception was income data. Respondents reported their own income, not that of their spouse. Therefore, the analysis of wives' income and housework is based on female respondents only, which results in a female perspective on the division of domestic labour (the same is true for male income and housework). This produces some bias in the reporting.

The population examined in this article consists of couples, married or common-law, with dependent children aged 18 or younger at home. To be part of the analysis, at least one of the spouses had to be employed. As well, only couples with both partners aged 15 to 64 were included.

### A man's job

While housework tends to be done by women, repairs, maintenance, and yard work are likely to be the responsibility of men. This varies little with the employment status of the partners, although men whose wives stayed at home or worked part time got more assistance with these chores.

In 1990, in 79% of dual-earner families, the husband had sole responsibility for repairs, maintenance, and yard work. The corresponding figure for families with a stay-at-home wife was 77%.

The nature of the responsibility involved in these chores differs from housework. Unlike domestic tasks such as meal preparation, which must be done every day, or laundry, which is typically necessary at least once a week, many repair, maintenance or yard work chores are done annually and often can be delayed indefinitely. As well, it is more common to hire outside help for these jobs than for housework.

preparation; this compared with 86% of wives employed part time and 72% of those employed full time.

While husbands in full-time, dual-earner families were the most likely of all husbands to assume responsibility for domestic chores, the proportions who did so were relatively low. Meal clean-up was the task that these men most often shared (15%) or did on their own (16%). Slightly fewer shared (12%) or had sole responsibility (13%) for meal preparation. And although 13% of husbands shared the cleaning and laundry, these were the chores that they were least likely to do alone (7%).

There was almost no difference in the degree of responsibility for housework taken on by wives working part time and stay-at-home wives.

### Full-time, dual-earning parents

The division of housework by full-time dual-earners deserves particular attention, since half of couples with children aged 18 or

Table 1  
Primary responsibility for housework of parents under age 65, by employment status of couple, 1990

Household chore and employment status	Total*	Primary responsibility			
		Wife only	Husband only	Wife and husband share equally	Other**
%					
Meal preparation					
Dual-earner, both working full time	100	72	13	12	2
Dual-earner, husband full time, wife part time	100	86	7	6	--
Single-earner, husband full time	100	89	5	5	--
Meal clean-up					
Dual-earner, both full time	100	59	16	15	6
Dual-earner, husband full time, wife part time	100	72	9	10	3
Single-earner, husband full time	100	78	7	8	3
Cleaning and laundry					
Dual-earner, both full time	100	74	7	13	3
Dual-earner, husband full time, wife part time	100	86	4	6	--
Single-earner, husband full time	100	86	4	7	--

Source: General Social Survey, 1990

\* May not add to 100% due to exclusion of non-response.

\*\* Someone other than the wife or husband had primary responsibility for the chore.

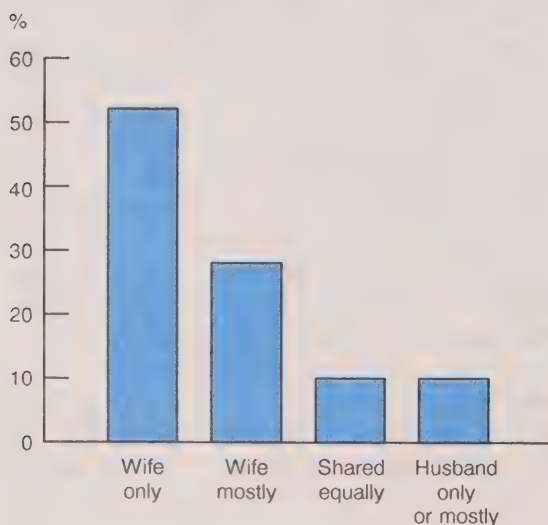


younger now fall into this category. These parents generally have less time to devote to domestic chores than do those with other employment patterns. By definition, full-time dual-earners deviate from traditional gender roles because both partners share responsibility for paid work. Therefore, it may be reasonable to expect that they might also deviate from the traditional division of household labour by sharing responsibility for housework.

In reality, this was not the case. In most full-time, dual-earner families, the wife had primary responsibility for housework.<sup>4</sup> The majority (52%) of wives employed full time had all of the responsibility for daily housework, while 28% had most of this responsibility (Chart B). Only 10% of dual-earning couples shared responsibility for housework equally; in the remaining 10% of couples, the husband had all or most of the responsibility.

Chart B

**Among full-time dual-earner couples, wives were largely responsible for housework.**



Source: General Social Survey, 1990

## Who shares ... who doesn't?

Only a small minority of full-time, dual-earning couples had an egalitarian division of housework. What distinguishes these couples from those who do less sharing?

Several characteristics were associated with the likelihood that the husbands would assume greater responsibility for housework – or more precisely, that the wives would not be solely responsible (Chart C). For example, the younger the partners, the less likely was the wife to be solely responsible for housework. The proportion of full-time, dual-earner wives under age 35 who were responsible for all daily housework was 47%, compared with 69% among those aged 45 to 64. The trend was similar according to the husband's age.

The number of children in the household also had some bearing on the allocation of domestic responsibilities. The percentage of dual-earner wives with all responsibility for housework increased from 44% of those with one child at home to 83% of those with four or more children. This suggests that when there is additional housework, as is the case with several children at home, women are more likely to do the extra work required.

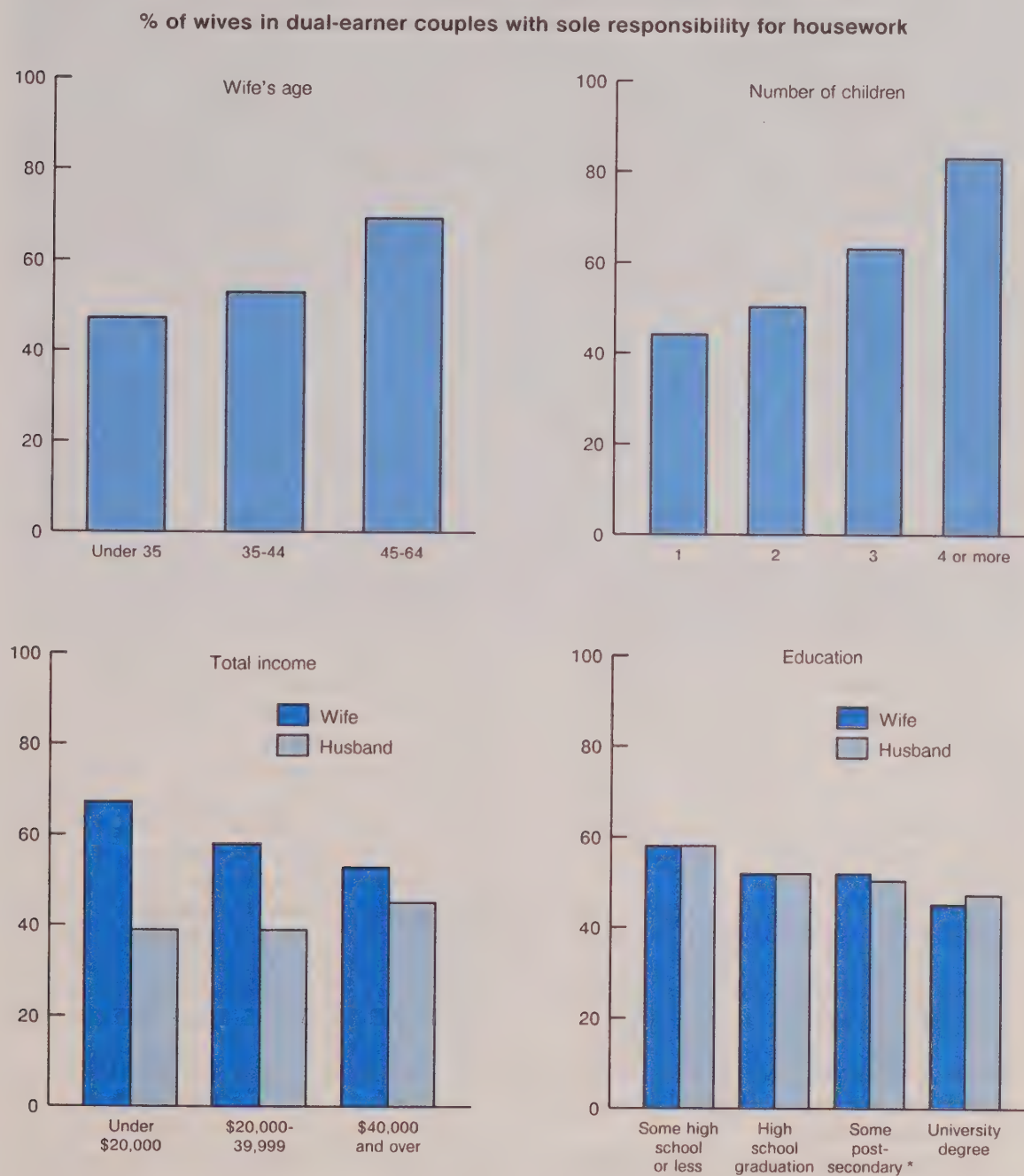
As well, dual-earner women in common-law unions were somewhat less likely than those in marriages to do all the housework. The wife had sole responsibility for housework in 46% of common-law unions, compared with 52% of marriages.

The educational attainment of both partners was also associated with the allocation of housework: the more educated the couple, the less likely was the wife to assume full responsibility for domestic chores. For instance, in 58% of households where the wife had less than high school graduation, she alone was responsible for daily housework; if she was a university graduate, the corresponding figure was 45%. The trend was similar according to the husband's level of education.



Chart C

The wife's responsibility for housework varied with the couple's characteristics.



Source: General Social Survey, 1990

\* Includes certificates and diplomas.

## Time use

According to the 1986 General Social Survey, meal preparation, meal clean-up, and cleaning and laundry are the household chores performed the most often by Canadians aged 15 and over. These chores have the highest daily participation rates, ranging from 11% for laundry to 51% for meal preparation. Further-

more, these chores accounted for 78% (9 hours and 34 minutes) of the total average time (12 hours and 15 minutes) people spent on household chores each week. It can be argued that the daily, time-consuming household chores are the most difficult ones to manage in combination with full-time paid work.

### Participation rate and average time spent on household chores, population aged 15 and over, 1986

	Daily participation rate			Time spent per week		
	Both sexes	Men	Women	Both sexes	Men	Women
	%			hours:minutes		
<b>All chores</b>	<b>69</b>	<b>52</b>	<b>85</b>	<b>12:15</b>	<b>6:53</b>	<b>17:30</b>
Meal preparation	51	29	72	3:51	1:24	6:11
Meal clean-up	35	15	54	1:31	:35	2:27
Indoor cleaning	28	10	46	3:09	1:03	5:08
Laundry	11	2	20	1:03	:07	1:59
Other housework	9	7	10	:42	:42	:42
Home repairs	6	9	2	1:03	1:45	:21
Gardening/pet care	5	5	5	:14	:21	:14
Outdoor cleaning	4	7	2	:28	:56	:14
Domestic travel	2	2	1	:07	:07	:07
Mending	1	0	2	:07	:00	:14

Source: General Social Survey, 1986

The relationship between domestic responsibility and income differed for wives and husbands. As the wife's income rose, the likelihood that she alone would be responsible for housework declined. By contrast, the higher the husband's income, the greater was the proportion of wives with all responsibility for housework.

## Sharing and satisfaction

The way that full-time dual-earners divide housework appears to be associated with their satisfaction with several aspects of their lives: the allocation of household tasks, the time for other interests, and the balance between work and family.<sup>5</sup>

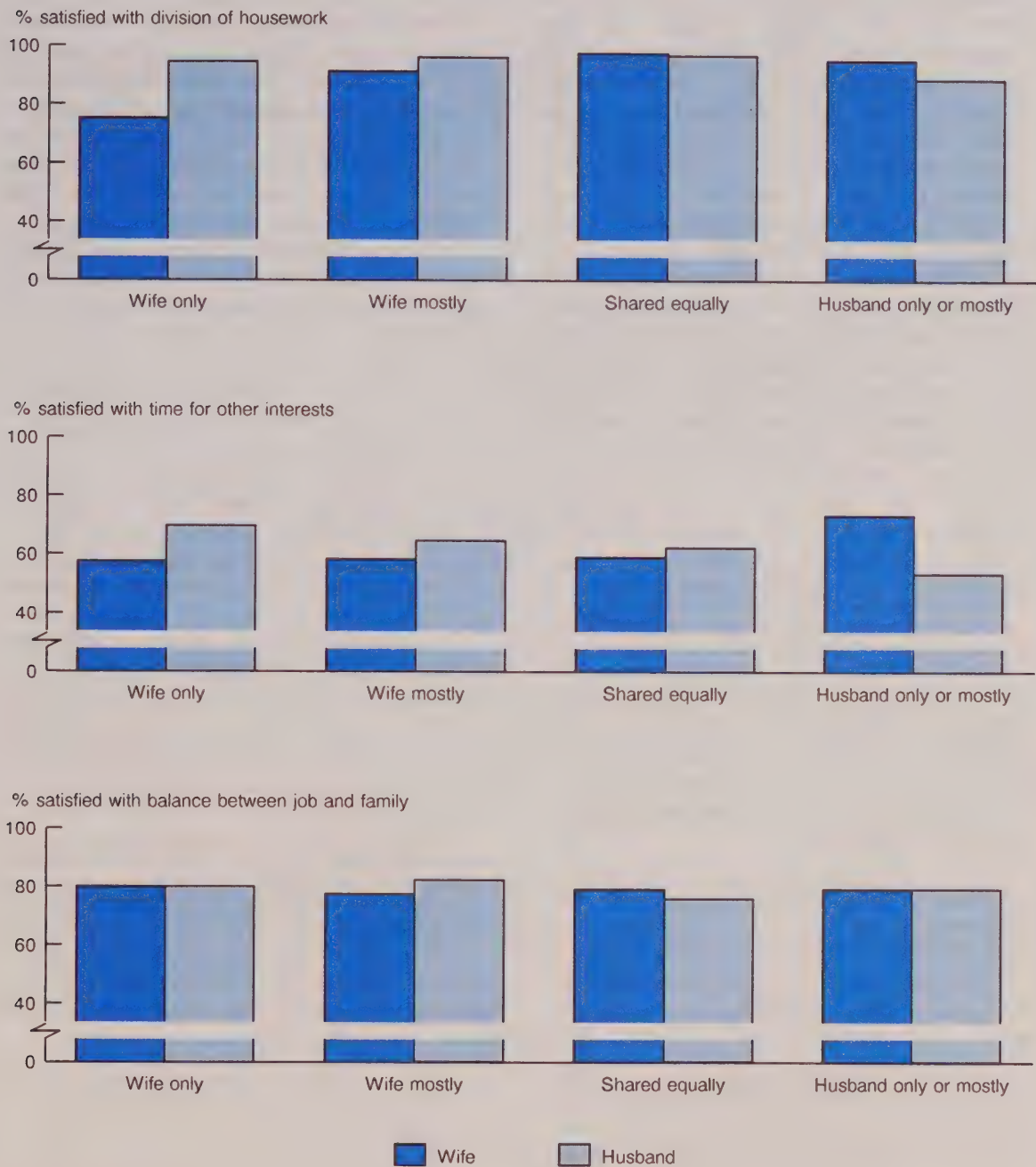
The majority of dual-earners indicated that they were satisfied with the allocation

of housework in their homes. However, the most satisfaction was expressed by wives (98%) and husbands (97%) in households where housework was shared equally (Chart D). Not surprisingly, spouses with little responsibility for housework also reported high levels of satisfaction (94% or more) with this allocation of duties. On the other hand, lower levels of satisfaction were expressed by spouses who did all the housework: 75% of wives who were responsible for all the domestic chores and 88% of husbands who had most of the responsibility were satisfied with the arrangement.

A sizeable proportion of all full-time dual-earners felt that they did not have sufficient time to pursue other interests. Dual-earners' satisfaction with this aspect of their life, however, was also related to their

Chart D

**Responsibility for housework affected the personal satisfaction of dual-earner couples.**



Source: General Social Survey, 1990



partner's responsibility for housework. The highest satisfaction levels (at least 70%) were reported by spouses with little responsibility for domestic chores. By contrast, just 58% of wives who managed all the housework and 54% of husbands who assumed most responsibility for these tasks were satisfied with the time they had for other activities. Dual-earners who shared housework responsibility also tended to feel pressed for time, as only 58% of wives and 63% of husbands expressed satisfaction with their time for other interests.

The distribution of responsibility for housework did not affect the way dual-earner couples felt about the balance between their job and their family. Regardless of how housework was divided, approximately eight out of ten wives and husbands were satisfied with the balance.

## Summary

According to the 1990 General Social Survey, women employed full time have somewhat less responsibility for housework than do women with part-time jobs or those at home full time. But while husbands tend to respond to their wife's working full time by taking a greater role in domestic chores, the division of housework is still far from equal. The majority of wives who are employed full time continue to have all or most of the responsibility for daily household tasks. These women face the double burden of paid work and unpaid housework. □

## Notes

<sup>1</sup> The General Social Survey (GSS) was established by Statistics Canada in 1985 to monitor changes in the living conditions and well-being of Canadians, and to provide information on various social issues of current or emerging interest. Data are collected annually from a random sample of households. Approximately 13,500 persons were interviewed in 1990. The target population consists of all persons aged 15 and over, except full-time residents of institutions and residents of the Yukon and the Northwest Territories. For further information, contact Douglas Norris at (613) 951-2572.

<sup>2</sup> The 1967 information is based on unpublished data from the Survey of Consumer Finances, which refer to families with children under age 16.

<sup>3</sup> The remaining 3% consisted of dual-earners with the wife working full time and the husband part time or both working part time, and single-earners with the wife employed full time and the husband at home full

time. Those respondents who did not state their employment status were also included in this residual category.

<sup>4</sup> A point system was used to determine responsibility for housework. Individuals scored a point each time they were acknowledged as having primary responsibility for meal preparation, meal clean-up, and cleaning and laundry. If responsibility for a chore was shared equally, each partner scored a point. Since daily housework consisted of three chores, the maximum score was three points. For example, "wife mostly" comprises scores of  $W=3$   $H=2$ ;  $W=3$   $H=1$ ; and  $W=2$   $H=1$ .

<sup>5</sup> Reports of satisfaction are difficult to interpret. Generally, it is more socially acceptable to be satisfied rather than dissatisfied with one's personal life. Therefore, reported levels of satisfaction may be exaggerated, depending on the nature of the question.

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# C/QPP costs and private pensions

Hubert Frenken

**M**uch recent discussion has centred on prospects for growth in the share of Canada's workforce covered by employer-sponsored registered pension plans (RPPs). One issue that has not attracted much attention is the possible impact of the rising costs of the Canada and Quebec Pension Plan (C/QPP) on RPPs. Increased contributions, implemented in recent years to maintain the financial stability of the C/QPP, may hamper efforts to expand the private pension system. While participation in the C/QPP is mandatory for virtually all workers aged 18 and older, RPPs are largely provided at the employer's discretion.<sup>1</sup> Consequently, C/QPP coverage is almost universal, but fewer than four out of ten workers are covered by RPPs. Will the higher contributions legislated for the C/QPP deter the establishment of new RPPs or even cause the termination of some of those now in existence?

## C/QPP contributions

The Canada and Quebec Pension Plan is funded through contributions required from workers and their employers. A percentage of workers' "contributory earnings" is withheld for the C/QPP, and this amount is

matched by their employers. (Self-employed individuals must contribute both the employee and employer portions.) Contributory earnings are those between a minimum amount (the basic exemption) and a maximum amount (the year's maximum pensionable earnings or YMPE). The YMPE is increased annually to bring it to the approximate level of average wages and salaries as determined by Statistics Canada's Survey of Employment, Payrolls and Hours. At the same time, the basic exemption, which is 10% of the YMPE, also rises.<sup>2</sup>

Implementation of the C/QPP in 1966 required matching contributions of 1.8% of contributory earnings from workers and employers, for a combined rate of 3.6%. While authorities recognized that this rate would eventually prove inadequate, it remained at this level for 21 years.<sup>3</sup>

## Rising rates

In 1985, to meet the demands of increasing benefit payments, an agreement was reached between the federal and provincial governments to gradually raise the CPP contribution rate, starting in January 1987. The rate schedule is reviewed every five years. The most recent review in January 1991 resulted in a schedule that runs to the year 2016. If this schedule is not altered, by 2016 the combined employee/employer rate will be 10.1%, up from the 1993 level of 5% (Table 1).<sup>4</sup>

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Table 1  
C/QPP combined employee/employer  
contribution rates\*

Year	%	Year	%
1987	3.80	2002	7.10
1988	4.00	2003	7.35
1989	4.20	2004	7.60
1990	4.40	2005	7.85
1991	4.60	2006	8.10
1992	4.80	2007	8.30
1993	5.00	2008	8.50
1994	5.20	2009	8.70
1995	5.40	2010	8.90
1996	5.60	2011	9.10
1997	5.85	2012	9.30
1998	6.10	2013	9.50
1999	6.35	2014	9.70
2000	6.60	2015	9.90
2001	6.85	2016	10.10

Source: Finance Canada

\* Implemented in 1987 and currently projected to 2016.

## Integration with the C/QPP

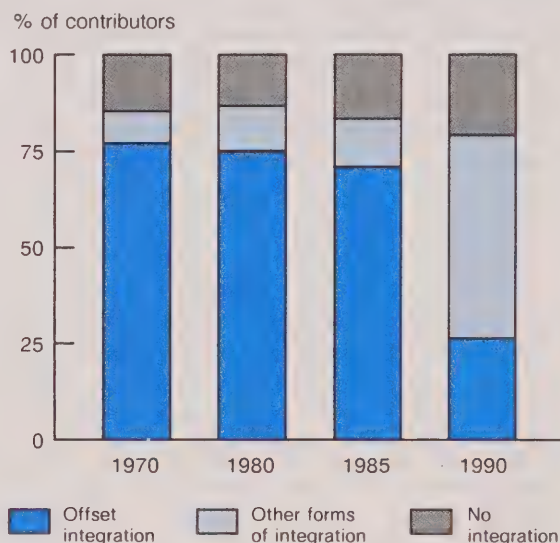
Introduction of the C/QPP in 1966 meant that workers were able to accumulate a basic level of retirement savings, but at some cost to themselves and their employers. As a result, many employers re-evaluated their RPPs. A few RPPs were actually terminated, but many others were changed.<sup>5</sup> The most common approach was to integrate RPP contribution and/or benefit rates with those of the new public program (see *Data source and definitions*). By 1970, three out of every four RPP participants were in integrated plans.

To shield employees who were contributing to RPPs from additional C/QPP premiums, their contribution rates were integrated with the C/QPP rate. The usual method of integration was to "offset" RPP contributions by the amount paid to the C/QPP. While this approach sheltered employees from the C/QPP contribution requirement, it delivered less to their RPPs.<sup>6</sup>

In 1970, 77% of RPP contributors had an offset contribution formula. Fifteen years later, in 1985, the proportion had declined only slightly, to 71% (Chart A). By 1990, however, only 26% of contributors had an offset formula while 51% had a step-rate formula.<sup>7</sup>

Chart A

**Offset integration has decreased dramatically in recent years.**



Source: Pension Plans in Canada database

## More money flowing to the C/QPP

This movement away from contribution offsets was a direct response to the C/QPP contribution increases. Offsetting RPP contributions was not a problem as long as the C/QPP rate was held at 1.8%. But as this rate increased after 1986, the proportion of employee contributions allocated to RPPs decreased. For example, members whose RPP contribution rate was 6% less C/QPP





# INCOME FACTS

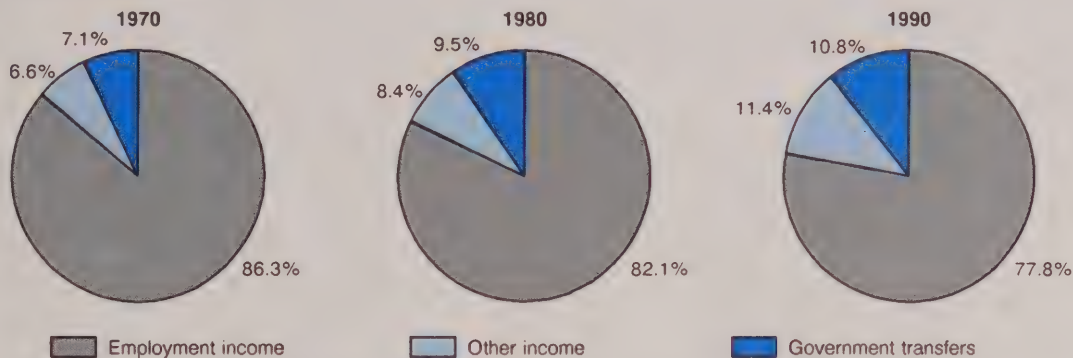
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# PERSPECTIVES

ON LABOUR AND INCOME

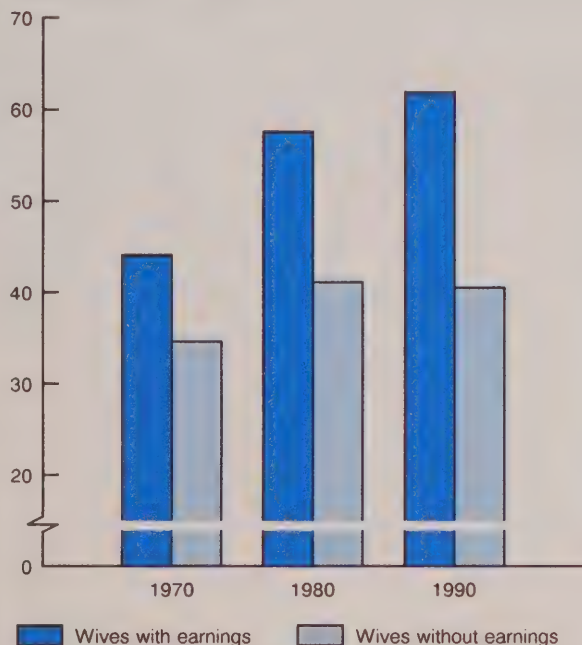
The information on these two pages represents a small portion of the detailed income data available from the **Census of Canada**.

**Government transfers and other sources of income have increased their relative shares of total income over the last two decades.**



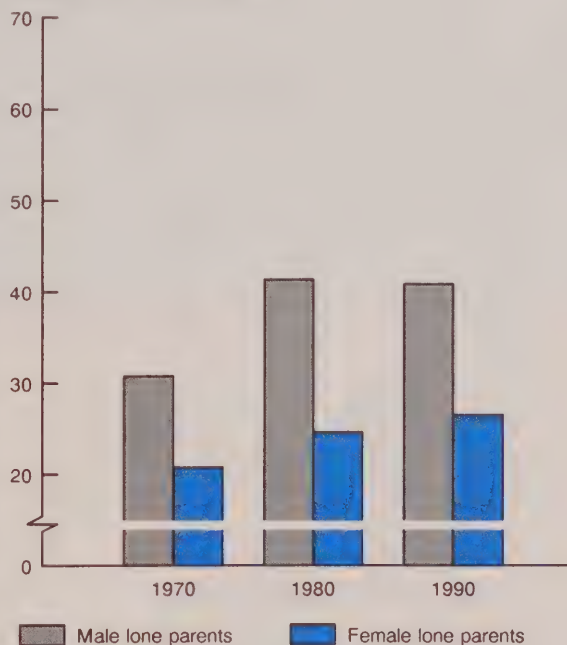
**Between 1980 and 1990, real incomes of husband-wife families increased only when the wife had earnings.**

Family income in 1990 \$ ('000)



**Although female lone-parent families have made real income gains since the 1970s, they still lag far behind their male counterparts.**

Family income in 1990 \$ ('000)

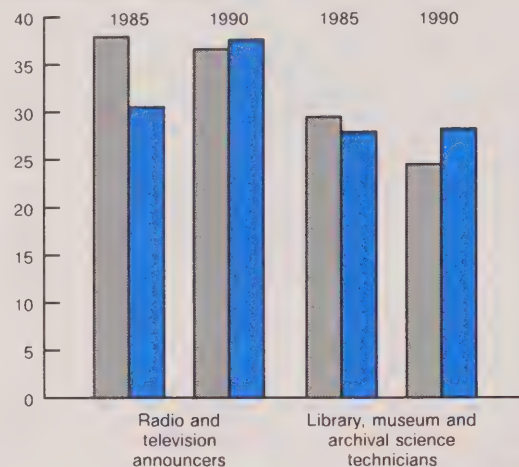


Statistics Canada Statistique Canada

Canada

**Average earnings of women working full year, full time surpassed men's in some occupations ...**

Average annual earnings in 1990 \$ ('000)

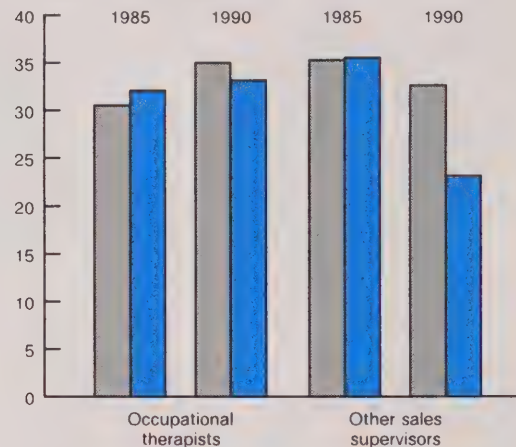


Men

Women

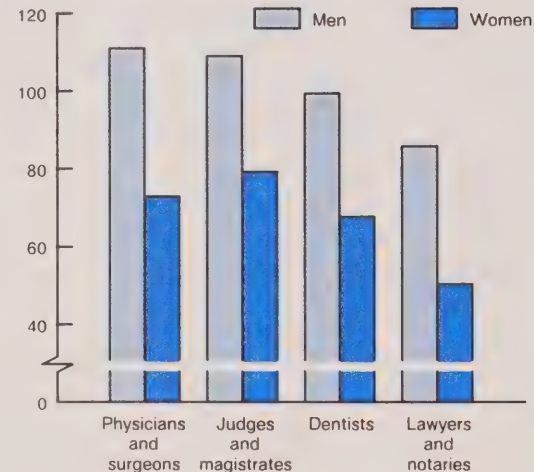
**... but fell behind in others.**

Average annual earnings in 1990 \$ ('000)



**For men and women working full year, full time in 1990, the four highest-paid occupations were the same but women's earnings were only about two-thirds of men's.**

Average annual earnings (\$'000)



**Concepts and definitions**

**Government transfers** consist of payments to individuals from all levels of government.

**Family income** is the sum of money incomes received in a calendar year by all family members from all sources.

**Earnings** consist of gross wages and salaries plus net income from self-employment.

**Full-year, full-time workers** refers to persons who worked 49 to 52 weeks, mostly full time (30 hours or more per week).

The **occupation** data are based on the 1980 *Standard occupational classification* (Catalogue No. 12-565E).

The following census publications contain income data: *Selected income statistics* (Catalogue No. 93-331) and *Employment income by occupation* (Catalogue No. 93-332).

For more information, refer to the 1991 *Census dictionary* (Catalogue No. 92-301E) or contact Abdul Rashid at (613) 951-6897.



# Reader Survey

Catalogue 75-001E

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## Data source and definitions

### The Pension Plans in Canada database

The information in this article is from the Pension Plans in Canada database maintained by the Labour Division of Statistics Canada. This database has been made possible through a co-operative arrangement with the federal and provincial agencies responsible for the supervision and regulation of employer-sponsored pension plans (RPPs) in their jurisdictions. The information is updated annually and covers a wide range of characteristics of all RPPs, including detailed classifications of the contribution and benefit formulas of each one. These classifications indicate whether the plan design takes C/QPP contributions and benefits into consideration and, if so, how the linkage is achieved.

As new plans are registered and existing plans amended, information is provided to Statistics Canada. Because the effective date for most amendments and new plans is January 1, annual figures reflect the number of active plans and their characteristics at the beginning of each year. There is, however, a time lag in the filing of documents by plan sponsors, the sanctioning and registering of applications by the pension authorities, and the reporting of data to Statistics Canada. Consequently, annual figures may not reflect very recent changes.

For further information, contact the Pensions Section of the Labour Division at (613) 951-4034.

**Integration:** Adjustments to contribution or benefit formulas of employer-sponsored registered pension plans (RPPs) that take into account the amounts paid into, or received from, the Canada and Quebec Pension Plan (C/QPP).

**Benefit step-rate:** A form of integrating an RPP benefit formula with the C/QPP to provide a lower level of benefits on earnings up to the year's

maximum pensionable earnings (YMPE). For example, a formula of 2% of final earnings (average earnings in the last few years before retirement) for each year of service might be amended to 1.3% on earnings, up to the YMPE, and 2% on the balance of these earnings.

**Contribution offset:** A form of integrating employee, and sometimes, employer RPP contributions with the C/QPP, whereby the amount that has to be allocated to the RPP is reduced ("offset") by the C/QPP contributions; for example, 5% of earnings less the required C/QPP contributions.

**Contribution step-rate:** A form of integrating employee and employer contributions with the C/QPP, whereby the percentage of earnings allocated to the RPP is lower for earnings up to the YMPE. For example, employees may be required to contribute 3.2% of their earnings up to the YMPE and 5% on the balance of their earnings.

**Defined benefit plan:** An RPP that specifies the benefits that members will receive at retirement or termination from the plan, but does not define the employer's contributions. Instead, the employer's contributions are determined by calculating the costs of providing these benefits. More than 90% of RPP members belong to defined benefit plans.

**Defined contribution plan:** An RPP that specifies the employer's contributions. Members' benefits consist of accumulated contributions plus interest earned at the time of retirement or termination from the plan.

**RPP contributors:** Members of RPPs who are required to contribute. More than 70% of RPP members are in contributory plans; for the remaining 30%, their employers alone contribute.

contributions, and whose earnings did not exceed the YMPE, would have contributed 4.2% of their earnings<sup>8</sup> to their RPPs in 1986 (6.0% less the 1.8% C/QPP rate) but just 3.8% in 1990 (6.0% less 2.2%). Moreover, with each succeeding year, the portion of their earnings allocated to the RPP would further decline.

This reduction in employee contributions would result in either lower RPP benefits or increased employer contributions. Since most RPP members are in defined benefit plans (see *Data source and definitions*), a large number of employers would have to make up the difference.

## Reduced future RPP coverage?

As the C/QPP contribution rates continue to rise, their impact on RPPs may be even greater in the future. Some employers, particularly small businesses, may not be able to afford RPPs. A large proportion of workers in small businesses earn less than the maximum C/QPP contributory earnings level (YMPE).<sup>9</sup> By 2016, such employers will be required to contribute more than 5% of possibly 90% of their payroll (total payroll less each worker's basic exemption) to the C/QPP. This requirement may preclude some of them from providing an RPP.

Similarly, many low-income workers who currently contribute to an RPP may have difficulty making contributions as a rising share of their earnings is withheld for the C/QPP. In 1990, one out of every three RPP contributors had a total income above that year's basic exemption (\$2,800) but below the YMPE (\$28,900).<sup>10</sup> Nearly all of them contributed to the C/QPP as well. Their average RPP contribution amounted to \$741, while that paid to the C/QPP was \$362, for a total of just over \$1,100 (Table 2). But, if the C/QPP contribution rate had been 5.05% (the rate projected for 2016), their average C/QPP contribution would have been \$831. This would have made additional RPP contributions more difficult.<sup>11</sup>

Terminating RPP membership because of C/QPP requirements has occurred before. Between 1965 and 1967, an undetermined number of employees who belonged to contributory RPPs and whose participation was not compulsory, discontinued their membership when the mandatory C/QPP

came into effect. These departures were reflected in higher levels of cash withdrawals from RPPs in those years (Weitz, 1992).

### More non-contributory plans?

Despite the inevitable increases in the C/QPP rates, a substantial proportion of RPPs with offset employee contribution rates have not been amended. In 1990, nearly 1,600 plans, covering 949,000 workers (26% of all RPP contributors), still had an offset contribution formula.<sup>12</sup> Moreover, nearly 1,400 of these plans, covering 182,000 workers, had offset contribution rates of 5% or less of members' earnings. If these plans are not amended and the 25-year CPP contribution schedule materializes, by 2016 these plans will, in effect, be non-contributory for members with earnings below the YMPE. Consequently, their employers will be required to pay all the costs.

Table 2  
Employer-sponsored pension plan (RPP) contributors by C/QPP participation and income, 1990\*

	RPP contributors		Average 1990 contributions	
			RPPs	C/QPP
	'000	%	\$	
<b>All contributors</b>	<b>3,696</b>	<b>100</b>	<b>1,607</b>	<b>...</b>
With C/QPP contributions	3,598	97	1,628	496
\$ 2,800 - 28,899**	1,203	33	741	362
\$28,900 - 39,999	1,032	28	1,456	557
\$40,000 - 59,999	1,020	28	2,275	569
\$60,000 and over	339	9	3,364	569
Without C/QPP contributions	98	3	843	...

Source: Revenue Canada, Taxation

\* Includes income from all sources. A small number of RPP contributors had income less than \$2,800. They were not required to contribute to the C/QPP.

\*\* The 1990 basic exemption was \$2,800 and the YMPE \$28,900.



## Summary

Annual increases in the C/QPP contribution rate began in 1987 and are expected to continue well into the next century. While these increases have already affected RPPs, their impact in the future may be even greater. Since growth in the C/QPP rate reduces the share of contributions flowing to RPPs with offset contribution formulas, the majority of these plans have been amended. Those that still have an offset formula may well be changed in the near future.

If the currently projected C/QPP rates materialize, some employers may be unwilling or unable to sponsor a supplementary plan for their workers. Also, some workers, particularly those whose earnings remain at or below the average wage and salary level, may have difficulty making additional contributions to an RPP.

These conjectures about the possible consequences of increased C/QPP contribution rates are based on the assumption that the future relative earnings and economic well-being of the workforce will change little

from the current situation. Also, this analysis considers neither the advantages of C/QPP contributions as tax credits to workers nor the impact of increased contributions on their income tax payable.

The problems of increasing pension costs are not unique to Canada. Declining private pension coverage of the workforce, coupled with mushrooming expenditures on public pension programs, is evident in most member countries of the Organisation for Economic Co-operation and Development (OECD). Among the alternatives being considered by these countries are measures that would have private pensions (both employer-sponsored and personal plans) serve the needs of individuals with higher incomes, leaving government plans as a safety net for the remainder of the population (Duskin, 1992).

The author wishes to thank Joan Johnson, Program Audit and Review Directorate, Health and Welfare Canada, and Professor Paul Dickinson of McGill University for their valuable comments and suggestions in reviewing this article.

## Notes

<sup>1</sup> The C/QPP is a universal program, introduced in 1966 to provide minimum levels of retirement, disability and survivors' benefits for Canada's workforce. The CPP is administered by the federal government and covers workers outside Quebec, while the QPP is administered by the Quebec government for workers in that province. Most RPPs, whose roots can be traced back to the early 1800s, predate the C/QPP (Weitz, 1992). Because of legislative restrictions, some workers cannot participate in RPPs, and many employers, particularly those with few employees, do not provide such plans. For details on RPP coverage rates by various employee and employer characteristics, see Frenken and Maser (1992).

<sup>2</sup> Both the YMPE and the basic exemption are rounded down to the nearest \$100. Consequently, the 1993 basic exemption and YMPE are \$3,300 and \$33,400, respectively.

<sup>3</sup> The C/QPP has always operated on a "pay-as-you-go" basis. Benefits were paid from current contributions, and the contribution rate was deliberately kept low, with the understanding that it would eventually have to be raised (Minister of Supply and Services Canada, 1985). The increased costs are primarily the result of dramatic growth in the number of beneficiaries.

<sup>4</sup> There is no comparable 25-year schedule for the QPP. However, the Quebec government conducts a similar review every five years and, so far, has implemented identical increases in the QPP contribution rate. Some observers have suggested that the rate projected to 2016 may be insufficient (William M. Mercer Ltd., 1992). In fact, the recently released actuarial report of the CPP indicates that the projected surplus in the fund, based on the current 25-year contribution schedule, will not be as large as previously anticipated (Office of the Superintendent of Financial Institutions, 1993).

## Notes – concluded

<sup>5</sup> Just 433 RPPs, covering fewer than 4,300 members (out of a total of 2.3 million), were discontinued as a result of the introduction of the C/QPP (Statistics Canada, 1967).

<sup>6</sup> Integration of employee contributions was usually accompanied by integration of RPP benefits (usually benefit step-rate formulas), resulting in lower benefits.

<sup>7</sup> The remaining 22% had a combination of rates or rates that varied for different classes of members.

<sup>8</sup> It would be slightly higher than 4.2% since C/QPP contributions are not required on earnings below the basic exemption.

<sup>9</sup> Small businesses tend to pay lower wages than large firms (Morissette, 1991).

<sup>10</sup> According to Revenue Canada taxation statistics, based on income from all sources, 34% of taxfilers who contributed to an RPP in 1990 had incomes in this range. Based on employment earnings only, this percentage increases to 40%.

<sup>11</sup> Even RPP contributors with income above the YMPE may have some difficulty managing the

increased C/QPP contributions. In 1990, those with total income above the YMPE but below \$40,000 contributed, on average, just over \$2,000 to their RPP and the C/QPP combined. If the 5.05% C/QPP contribution rate had been in effect, this combined contribution would have been more than \$2,700.

Increased C/QPP contributions may have a similar impact on registered retirement savings plans (RRSPs). In 1990, nearly 1.5 million RRSP contributors (35% of the total) reported total incomes less than the YMPE. More than 90% of them also contributed to the C/QPP. Their RRSP participation rate and contributions might have been much lower if the C/QPP rate projected for 2016 had been in effect, as their average C/QPP contribution would have been \$813, instead of \$354. Also, those with incomes above the YMPE but below \$40,000 that year, would have been obliged to contribute \$1,300 to the C/QPP on average, rather than the \$567 reported on their tax returns.

<sup>12</sup> Three-quarters of these members were public sector employees. For definitions of the public and private sectors, as they apply to these data, see Frenken and Maser (1992).

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# A note on wage trends among unionized workers

Manon Nadeau

**W**age increases among unionized workers under major collective agreements (covering 500 or more employees) just barely kept ahead of inflation over the 1979 to 1992 period – averaging 6.5% compared with an average inflation rate of 6.2%. This group of workers represents about 22% of all paid workers in Canada<sup>1</sup> and accounts for close to two-thirds of public sector employees.

This note discusses the trend in wage increases since 1979, based on Labour Canada data on collective agreements in force (see *Data source*). Statistics Canada's Labour Market Activity Survey has been used as a complementary data source to compare wage hikes between 1986 and 1990, as well as the differences in average hourly rates between unionized and non-unionized workers.

## Trends in base wage rates

The period under study can be divided into six time-elements according to real gains or losses registered in base wage increases: 1979, 1980-84, 1985-87, 1988-90, 1991 and 1992 (Chart A).

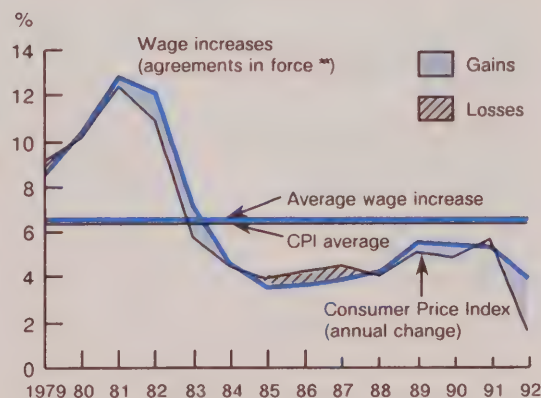
The late 1970s were marked by a second surge in oil prices and the appearance

of an inflation rate exceeding 9%. Overall, wage increases lagged behind the rise in the Consumer Price Index (CPI). However, this trend was not found in all industry sectors (Chart B).

There were some real gains from 1980 to 1984, since the upward trend in wages kept slightly ahead of the CPI. In other

Chart A

**On average, wage increases have barely kept up with the rise in the cost of living over the period. \***



Sources: Consumer Price Index and Labour Canada

\* Construction is excluded from the agreements in force database prior to 1983.

\*\* Includes agreements with and without cost-of-living allowance (COLA) clauses.

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words, despite strong inflationary pressures at the time, the collective agreements in force (see *Data source*) still protected the purchasing power of those covered by them. All industries covered by the major collective agreements benefited, with the exception of community, business and personal services, and public administration, which registered increases below or equal to the CPI in some years.

In contrast to the preceding period, wage increases remained below the inflation rate during the first part of the expansionary period that followed from 1985 to 1987. The size of the public sector partly explains this moderation in increases in the major wage settlements (Table 1). During this period, various levels of government introduced restraint programs or wage freezes that varied in the method of application, the

duration of enforcement, and the extent of coverage. This loss of purchasing power was felt in all but two industries in the private sector: construction, which registered some gains in 1985, and manufacturing, in 1985 and 1986.

### Data source

The information drawn by Labour Canada from collective agreements covering 500 or more employees provides data on changes in base wage rates in all industries. (The base rate is the lowest paid classification used for qualified workers in the bargaining unit.) A few agreements are excluded where the basis of payment is on a piece/mileage rate basis. The construction industry is excluded prior to 1983. The data obtained are also broken down by province, commercial and non-commercial sectors, and private and public sectors.

Since 1992, Labour Canada has been publishing statistics on agreements in force. The data in this note are based on these agreements. They include "... wage adjustments for all employees under major collective bargaining agreements. This series, a measure of changes in "union wage rates", monitors all adjustments (increases, decreases and no changes) in base wage rates from all settlements in force – from those reached in the period, from agreements reached earlier with changes deferred to the period, and those resulting from COLA clauses.

The "agreements in force" data reflect wage changes in all major collective agreements which are effective as of the period shown, and are representative of the universe of major collective agreements, *except* for the exclusion of those contracts which have expired and have not been renewed – usually because they are still in negotiations. "Agreements in force" data, when shown for future periods, are a measure of wage increases which will come into effect in the relevant period – from all agreements currently in the data base of major collective bargaining agreements." (Labour Canada, 1992)

Labour Canada also publishes statistics on "new settlements," that is, wage outcomes resulting from collective agreements, on the basis of the period in which settlements are reached.<sup>2</sup>

*Perspectives on labour and income* publishes the number of agreements and the number of employees covered as well as the increase in base wage rates of new settlements for the current and preceding years in the "Key labour and income facts" section under Major wage settlements.

Table 1  
**Distribution of unionized workers covered by major wage settlements, by industry and sector (1979-92 average)\***

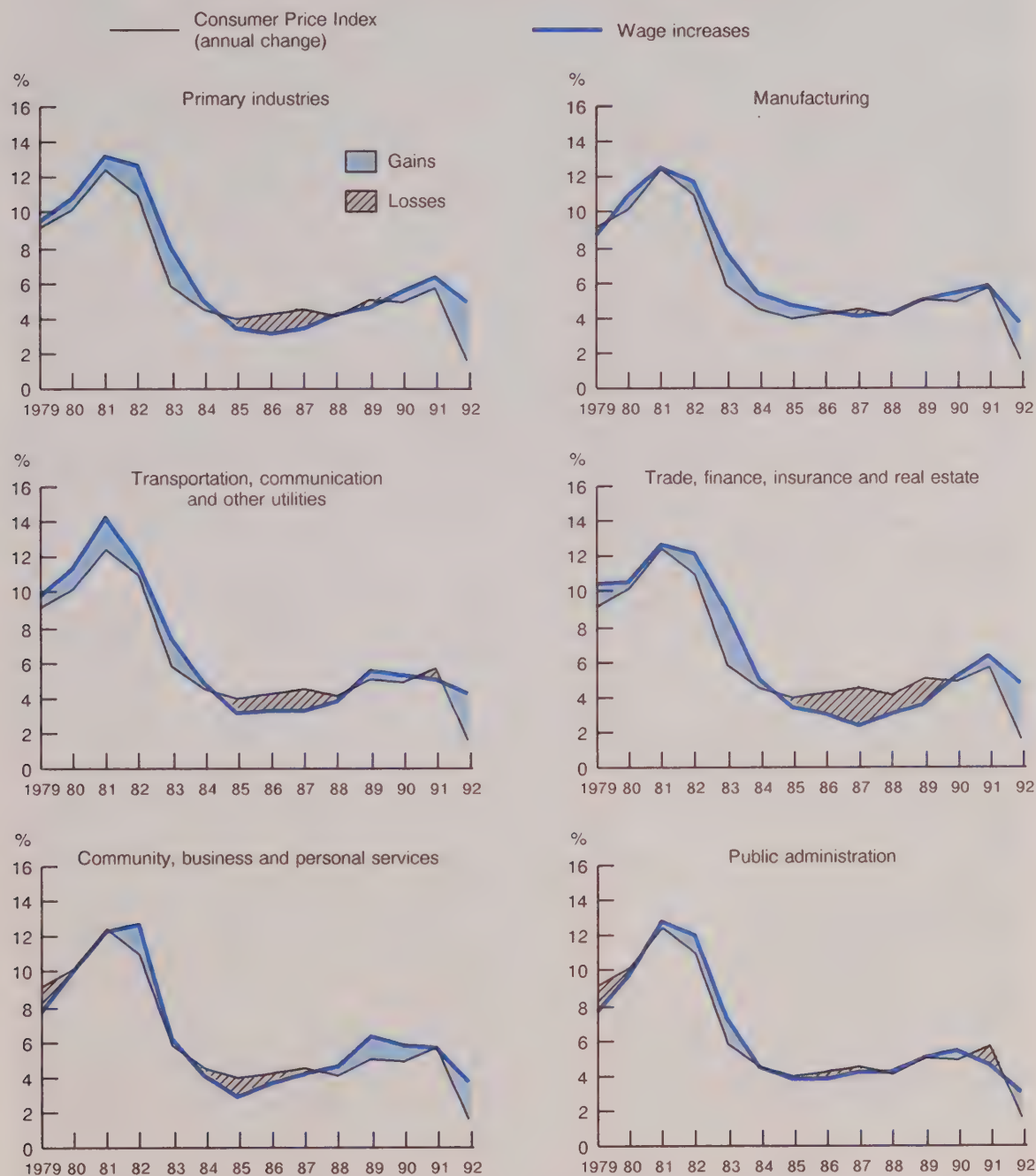
	%
<b>All industries</b>	<b>100</b>
Primary industries	2
Manufacturing	16
Construction	6
Transportation, communication and other utilities	16
Trade, finance, insurance and real estate	5
Community, business and personal services	33
Public administration	22
<hr/>	
Public sector	63
Private sector	37

Source: Labour Canada

\* The distribution of workers was determined by calculating the average number of employees included in the agreements in force in each industry/sector, from 1979 to 1992. Construction is excluded from the agreements in force database prior to 1983.

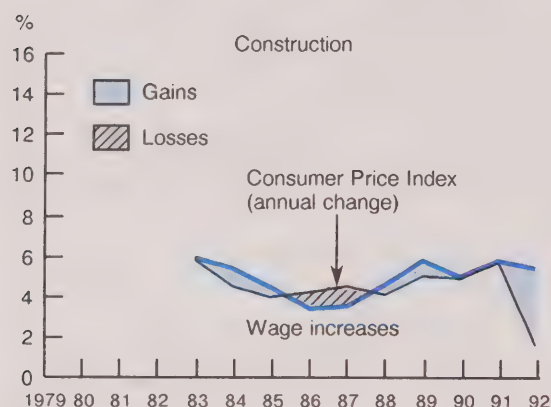
Chart B

Following dissimilar fluctuations, real wages rose in all industries in 1992.



Sources: Consumer Price Index and Labour Canada

Chart B (continued)



Sources: Consumer Price Index and Labour Canada

Note: Construction is excluded from the agreements in force database prior to 1983.

However, from 1988 to 1990, at the end of the expansionary period in the Canadian economy, wages increased ahead of the CPI, and this trend continued during the first year of recession. These wage increases may have reflected a desire to compensate for the wage losses in the preceding period. A breakdown in the data by industry discloses that only construction, manufacturing, public administration, and community, business and personal services experienced increases equal to or greater than the CPI during this period.

The introduction of the Goods and Services Tax (GST) in 1991 boosted the inflation rate from 4.8% in 1990 to 5.6% in 1991, while the increase in the average base wage rate was slightly below the CPI. However, increases exceeding the CPI were achieved in the primary, manufacturing, and construction industries as well as in trade, finance, insurance and real estate.

Table 2

**Average increases in base wage rates (major collective agreements in force), 1979-1992\***

	Number of agree-ments	Number of workers covered	Average wage in-creases**	Annual change in the CPI
		'000	%	%
1979	959	2,055	8.5	9.1
1980	1,020	2,114	10.4	10.2
1981	1,014	2,121	12.8	12.4
1982	1,027	2,136	12.1	10.9
1983	1,022	2,147	7.1	5.7
1984	1,053	2,259	4.6	4.4
1985	1,066	2,248	3.5	3.9
1986	1,092	2,356	3.6	4.2
1987	1,115	2,363	3.8	4.4
1988	1,120	2,430	4.2	4.0
1989	1,129	2,462	5.5	5.0
1990	1,129	2,436	5.4	4.8
1991	1,134	2,604	5.3	5.6
1992	996	2,305	3.8	1.5
Average	1,063	2,288	6.5	6.2

Source: Labour Canada

\* Construction is excluded prior to 1983.

\*\* Includes agreements with and without cost-of-living allowance (COLA) clauses.

In 1992, each industry regained some ground, as real wages rose while the inflation rate dropped to 1.5%, the lowest since 1979. □

The author wishes to thank Céline Laporte and Guy Lalonde from Labour Canada for their valuable comments and suggestions in reviewing this article.



### What about non-unionized workers?

A profile for all workers can be established using the 1986-1990 results of the Labour Market Activity Survey (LMAS). This household survey includes all unionized employees, regardless of the type or size of their collective agreement, as well as non-unionized workers. The LMAS can be used to produce data on labour market participation and the characteristics of those employed during a calendar year (up to five jobs). The average hourly pay (usual pay, estimated on an hourly basis, which may include some overtime, tips, bonuses, and commissions in 1986) for all jobs held during a year was calculated for each year studied.

In 1986 and 1990, in each industry examined, unionized workers had a higher average hourly rate than their non-unionized counterparts. In 1986, the average hourly wage of unionized employees in all industries (\$13.21) was 28.5% higher than that of non-unionized workers (\$10.28). This wage discrepancy between the two groups increased

slightly between 1986 and 1990 (to 29.5%), particularly in the following industries: community, business and personal services, and trade, finance, insurance and real estate.

During this short period, real wage increases were barely sufficient to enable unionized employees to counteract the effects of inflation (0.5%), while non-unionized employees, as a whole, lost ground (-0.3%). The small increase in wages among union members is basically attributable to community, business and personal services (3.0%).

From 1986 to 1990, unionized workers covered by major wage settlements across all industries (Labour Canada data) obtained no increase in real wages, compared with a very slight increase of 0.5% for unionized employees covered by the Labour Market Activity Survey. In other words, both sources of data on unionized workers show a lack of significant real gains in this short period.

For additional information on the LMAS, contact Stephan Roller, Special Surveys, at (613) 951-4625.

### Average hourly earnings of paid workers by industry and unionization, 1986 and 1990

	Average hourly wage		Change 1986-1990
	1986*	1990**	
	1986 \$		%
<b>All industries</b>	<b>11.48</b>	<b>11.46</b>	<b>-0.2</b>
Unionized	13.21	13.27	0.5
Non-unionized	10.28	10.25	-0.3
<b>Primary industries</b>	<b>11.41</b>	<b>11.41</b>	<b>0.0</b>
Unionized	14.17	13.68	-3.5
Non-unionized	10.44	10.54	1.0
<b>Manufacturing</b>	<b>11.95</b>	<b>11.92</b>	<b>-0.3</b>
Unionized	12.41	12.28	-1.0
Non-unionized	11.54	11.64	0.9
<b>Construction</b>	<b>12.16</b>	<b>12.11</b>	<b>-0.4</b>
Unionized	14.98	14.90	-0.5
Non-unionized	10.36	10.52	1.5
<b>Transportation, communication and other utilities</b>	<b>13.50</b>	<b>13.31</b>	<b>-1.4</b>
Unionized	14.34	14.04	-2.1
Non-unionized	12.13	12.13	0.0
<b>Trade, finance, insurance and real estate</b>	<b>10.08</b>	<b>9.86</b>	<b>-2.2</b>
Unionized	11.03	10.93	-0.9
Non-unionized	9.91	9.67	-2.4
<b>Community, business and personal services</b>	<b>10.85</b>	<b>11.02</b>	<b>1.6</b>
Unionized	13.15	13.55	3.0
Non-unionized	9.10	9.19	1.0
<b>Public administration</b>	<b>13.90</b>	<b>14.03</b>	<b>0.9</b>
Unionized	14.04	14.03	-0.1
Non-unionized	13.48	14.03	4.1

Source: Labour Market Activity Survey

\* May include some reported overtime, tips, bonuses and commissions.

\*\* Adjusted for inflation.

## Notes

<sup>1</sup> This percentage was estimated by the following method: dividing the average number of unionized employees covered by the major wage settlements by the average number of paid workers derived from the Labour Force Survey for the 1979 to 1992 period. These unionized employees accounted for more than half of all unionized workers in Canada in 1992.

<sup>2</sup> The information in *Data source* is taken from the publication *Major wage settlements* (Labour Canada, 1992) in the sections on "Wage adjustments from all agreements in force" (pp. 12-14) and "Technical notes" (pp. 15-18).

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## What's new?

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### Just released

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#### *New data on adults not in the labour force*

The Survey of Persons Not in the Labour Force (NLF), a supplement to the November 1992 Labour Force Survey, was conducted to learn more about people who are not in the job market. In addition to the demographic and socio-economic characteristics collected by the Labour Force Survey, NLF data cover variables such as current non-labour market activities, education and job plans of youths neither working nor attending school, and reasons for early retirement.

Labour force participation rates have dropped steadily in recent years, and by November 1992, just under 7.4 million Canadians aged 15 and over were neither employed nor actively seeking work. Half of them were excluded from the analysis because they were over 69 years old, full-time students, or permanently unable to work. The remaining 3.7 million were the focus of the NLF analysis published in the April 1993 issue of *The labour force*.

The majority (60%) of these persons not in the labour force were aged 50 to 69, just over one-third were aged 25 to 49, and the rest were youths aged 15 to 24.

#### *Retirees aged 50 to 69*

- Almost 1.6 million Canadians aged 50 to 69 were retired from the labour force;

just over half of them had retired earlier than they had planned.

- Over one-third (36%) of early retirees had done so because of illness, although 18% had simply wanted to stop working. Plant closure or layoff prompted another 14% to retire early.
- Just over one-fifth of early retirees received a "cash-out" or an early retirement package in addition to regular retirement benefits. Men were far more likely than women to receive a cash-out (30% versus 12%), as were workers with higher levels of education.
- Employer-sponsored pensions and RRSPs were important income sources for retired men (68%) but not for women (37%). Almost three-quarters received Canada/Quebec Pension Plan benefits and/or Old Age Security, and more than four out of ten retirees relied on savings or investment income.
- Almost one-quarter of retirees had an annual family income of less than \$15,000, while about one in five had a family income of \$40,000 or more.

#### *Women aged 25 to 49*

- Women made up the vast majority (85%) of Canadians aged 25 to 49 who were not in the labour force. Most of them were married and had children at home (69%) while 12% were lone parents.



- Only 54% of these women (575,000) had worked in the last five years. While 39% of these former workers had been laid off from their last job, almost as many (32%) had left for personal or family reasons.
- Over three-quarters of all women not in the labour force reported annual family incomes of \$15,000 or more; among single mothers, however, the situation was very different – 78% received less than \$15,000, and for most of them, social assistance was an important source of income.

#### *Men aged 25 to 49*

- The greatest increase in non-participation in the labour force between November 1989 and November 1992 was recorded for men in this age group.
- Of the 190,000 men who were not in the labour force, over one-quarter were ill or disabled and another quarter were waiting for recall or to start a new job, while one-fifth felt no work was available (discouraged workers).
- In November 1992, 38% of these men received social assistance, 34% had Workers' Compensation or Unemployment Insurance, and 19% relied on family support and/or savings or investment income. The annual family income of almost four in ten men not in the labour force was less than \$15,000.

#### *Youths aged 15 to 24*

- Women accounted for 72% of the 191,000 youths in this group who were neither in the labour force nor attending school (non-student youths).
- Caring for their own children was the main activity of 42% of these non-

student youths (most of them women), 22% spent most of their time managing a home, and 17% spent it on leisure activities.

- As for future plans, almost half of these non-student youths planned to return to school, and six in ten intended to look for work. Returning to school did not hamper the search for work; in fact, youths who intended to continue their studies were more likely to plan a job-search than those who did not.
- The three main sources of income for non-student youths were social assistance (42%), family (26%), and Unemployment Insurance or Workers' Compensation (16%).

Detailed highlights of the Survey of Persons Not in the Labour Force were published in the April 1993 issue of *The labour force* (Catalogue 71-001). For more information about the survey, contact Deborah Sunter at (613) 951-4740. □

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## **Special report on conferences**

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### *StatsCan hosts symposium to discuss work and the family*

In September 1993, Statistics Canada, in collaboration with Labour Canada, will host a one-day conference to discuss the complex issue of balancing work and family responsibilities. The "Symposium on the family and work arrangements" will discuss the results of the Survey of Work Arrangements and other related Statistics Canada data. It will also draw on the experiences of policy planners, human resource managers, union representatives and ordinary workers.

The morning session will open with a panel discussion on work and the family from the point of view of employees and employers, followed by presentations of findings from the 1992 Survey of Work Arrangements. During the afternoon, analysts from several divisions at Statistics Canada will present the results of statistical research on the issue. The Symposium will conclude with case studies of policies and programs that affect family and work. Among the private sector speakers slated to address the conference are representatives from the Bank of Montreal, Northern Telecom Limited, the Royal Bank of Canada, the Canadian Labour Congress and The Conference Board of Canada. Public sector representatives hail from Labour Canada and Treasury Board, as well as Statistics Canada.

The "Symposium on the family and work arrangements" will be held Friday, September 24, at Statistics Canada in Ottawa. The fee is \$125 (plus GST). For information, call Penny Basset at (613) 951-1906 or Ernest B. Akyeampong at (613) 951-4624, or fax (613) 951-4179. □

### *Report on International conference on unpaid work*

Since the mid-1970s, Statistics Canada has worked on developing techniques for measuring unpaid work. In recent years, the pace of research has been accelerating as demand for these data increases.

In April, Statistics Canada and Status of Women Canada jointly hosted a conference to discuss measuring and estimating the value of work done outside the traditional market economy. Much of the discussion during the three days centred on technical questions about challenges faced in

developing and testing various approaches and survey vehicles. These were the "how-to" questions: how to define unpaid work, then how to measure the volume of such labour, estimate its value, and reconcile it with measures of paid work.

Presentations covered such issues as user requirements and data needs, and research currently underway. Topics discussed in the workshops included unpaid work and its inclusion in the National Accounts, techniques and survey vehicles for measuring household and volunteer labour (including housework, care of children and seniors), and the trade-off between market work and unpaid work on behalf of family and community. The highest attendance, however, was recorded at the workshops on defining unpaid work and choosing ways to value it.

A summary report on the "International conference on the measurement and valuation of unpaid work" will be available soon. For information, contact Pat Grainger at (613) 951-4578, or fax (613) 951-2869. □

### *Conference report on A comparison of labour markets in the last two recessions*

The importance and long-range impact of the recession of 1990-92 will only be understood with "sober second thought." In hopes of beginning this process, the Canadian Employment Research Forum (CERF) and the Business and Labour Market Analysis Group of Statistics Canada jointly sponsored a conference in early March on labour market behaviour during the last two recessions. Papers were presented by labour market analysts from academia, as well as the public sector, and attracted about 200 participants.



The major results of the discussions following the presentation of papers can be summarized as follows:

- (1) The length, if not the depth, of the 1990-92 recession resulted in greater job loss than the recession of the early 1980s.
- (2) Older workers, the less educated and men were hit harder.
- (3) The duration of spells of unemployment is an important complement to the unemployment rate as an indicator of individual hardship.
- (4) Ontario has borne the brunt of the recent recession.
- (5) White- and blue-collar unemployment rates were essentially the same in both the 1990-92 and 1981-82 recessions.
- (6) Preliminary evidence indicates that the extent of permanent job loss and permanent layoff is about the same in both recessions.
- (7) Unlike the earlier recession, business investment in machinery and equipment was substantial in the 1990-92 downturn.
- (8) In comparison with other recessions, indicators of productivity performance in the 1990-92 recession are inconclusive.

Copies of the papers, briefly described below, are available from the Business and Labour Market Analysis Group. Contact Darquise Langlois at (613) 951-8213, or fax (613) 951-5643.

*Miles Corak, Statistics Canada: "Cyclical dynamics in the duration of unemployment"*

The author has developed a statistic to measure the average duration of unemployment among the newly unemployed; this statistic allows the analyst to assess the cyclical flow of the labour market, as opposed

to the stock of unemployed workers (as described by the Labour Force Survey). The average duration of unemployment was about 19.6 weeks in 1990-91, about the same as it was in 1981-82, even though the unemployment rate was lower in 1990-91.

The duration of unemployment in the two recessions differed among sub-groups. For example, older workers were unemployed longer in 1992 than in 1983, as were workers in Ontario. In fact, almost two-thirds of the change in the unemployment rate was due to changes in the duration of unemployment, and the remainder to larger numbers of unemployed workers. Also, in the most recent recession, unemployment duration became "polarized": in 1990-92, the chances of finding work in the first two months were better than in 1981-82, but they were worse after three or more months of unemployment. This implies that although the average length of unemployment was the same, the distribution was more skewed in 1990-91 towards the longer periods of unemployment. The author concludes that cyclical variations in the average duration of unemployment are explained by changes in the underlying hazard rates of various sub-groups, not by shifts in the composition of the unemployed.

*Stephen Jones (McMaster University) and Craig Riddell (University of British Columbia): "Gross flows and marginal workers in the last two recessions"*

The paper tackles the common perception that the two most recent recessions differed considerably: it is generally believed that 1981-82 was notable for its severity and 1990-92 for its longevity. The paper discusses flows into and out of employment and unemployment, and into and out of the labour market, concluding that these were slightly less pronounced in 1990-92 than in 1981-82. The authors also examine people with a marginal attachment to the labour



force, that is, people who wanted work but did not look for work. Not surprisingly, their numbers rise during recessions, but the increase was less marked in 1990-92 than in 1981-82. Furthermore, the reasons why people were not looking shifted in 1990-92, with people "waiting for recall" or "personal and other" reasons acquiring more weight and the proportion of discouraged workers and those "waiting for replies" to job applications declining in importance. The analysis concludes that the only notable difference between the recessions was the "geographic centre," with the West taking the brunt of labour market dislocation in 1981-82 and Central Canada taking it in 1990-92.

*Peter Kuhn (McMaster University), Georges Lemaître (Consultant) and Garnett Picot (Statistics Canada): "Employment, unemployment, hirings and layoffs during the 1981-82 and 1990-92 recessions"*

The 1990-92 recession differed from its earlier counterpart in its duration, the early and protracted downturn in manufacturing employment, and the slow increase in output without an accompanying rise in employment. The paper finds that, at the trough of the recession, the standard indicators (rise in unemployment, fall in employment, increase in layoffs, and slowdown in hirings) would appear to show that 1990-92 was longer but not as severe as 1981-82. However, the probability of an individual with a given age, sex and education profile becoming unemployed was higher and the cumulative effects were harsher simply because of its longer duration, thereby suggesting that the 1990-92 recession had a greater impact on the labour market.

Contrary to the observations of other analysts, the authors contend that 1990-92 was not really a "white-collar" recession, since losses in clerical and service occupations were offset by employment gains in professional and semi-professional jobs. In comparison with the labour market as a whole, managers were no harder hit than they had been in 1981-82; in fact, employment growth among the university-educated was stronger in 1990-92. The bulk of employment loss was assumed by blue-collar workers, who made up less than one-third of the employed.

For the economy as a whole, permanent as opposed to temporary layoff was used by employers more frequently in 1990-92 than in 1981-82. However, the same change did not occur in manufacturing, which maintained about the same ratio of permanent to temporary layoffs in both recessions (40% permanent and 60% temporary).

*Andrew Sharpe (Canadian Labour Market and Productivity Centre): "A comparison of the productivity performance of the Canadian economy between the early 1980s and 1990s"*

The author quotes the OECD observation that Canadian productivity in 1992 was "unusually strong," especially in manufacturing, noting that this characterization has been interpreted in two different ways: that the Canadian economy has become more efficient; or that productivity growth is usual at this stage of a recovery and does not indicate a structural change in the economy. The paper compares and contrasts Canadian productivity in the early 1980s and the early 1990s, and concludes that the second proposition is closer to the truth. It expects that 1993 and 1994 will see gains in productivity, but that aggregate labour productivity growth in the 1990s will be more sluggish than that in the 1980s.

*Lucie Samson (Université Laval):*  
"Aggregate sectoral shifts and the last two Canadian recessions"

The paper aims to determine if the 1990-92 recession was longer than the 1981-82 recession because of increases in the pace of structural change. The author examines employment and unemployment data to assess whether any difference in the variables' behaviour during the two periods was due to changes in the size and/or direction of sectoral shifts.

The author finds that sectoral shifts in employment demand were not as great in the 1990-92 recession as in that of 1981-82, but were nonetheless an important contributing factor to unemployment. Monetary policy played a greater role in unemployment in the 1980s than in the 1990s, which may partly explain why the western provinces – being more sensitive to monetary policies – did so badly in the 1981-82 recession; in 1990-92, Ontario suffered more than the other provinces.

*Surendra Gera, David Caldwell and David Ferguson (Industry, Science and Technology Canada):* "Industrial restructuring in Canadian manufacturing: A comparison of the 1981-82 and 1990-91 recessions"

The authors conclude that the manufacturing sector is undergoing greater restructuring than it did in the 1980s; that there

has been a change in how the output is produced (input change) rather than in what is produced (output change); and that restructuring is proceeding more quickly in 1989-92 than in 1981-82.

Although all recessions tend to hasten structural change, the authors argue that structural change in manufacturing was a more important influence in the 1989-92 period than in 1981-82. Furthermore, the recent restructuring is different because it has affected input: labour is being replaced by capital, and the type of workers who are in demand are more educated and highly skilled. These input changes have increased labour productivity, an event unprecedented in a recession. The authors also conclude that "a significant portion [of the rise in unemployment] is due to underlying competitiveness problems and the postponement of restructuring activity during the early 1980s." They observe, for example, that while manufacturing in Quebec underwent restructuring in 1981-82, it was delayed in Ontario until 1989-92, which may explain the severity of the recession in that province.

Summaries of the proceedings of the joint Statistics Canada/CERF conference on "A comparison of labour markets in the last two recessions" are also available from the Business and Labour Market Analysis Group. Contact Darquise Langlois at (613) 951-8213, or fax (613) 951-5643. □



## Key labour and income facts

The following selection of labour and income indicators is drawn from 12 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest annual figures are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated or revised since the last issue is "flagged" with an asterisk.

### Data sources

The indicators are derived from the following sources:

- |           |  |
|-----------|--|
| 1-11 & 15 | <b>Labour Force Survey</b><br>Frequency: Monthly<br>Contact: Doug Drew (613) 951-4720                          |
| 12-14     | <b>Labour Market Activity Survey</b><br>Frequency: Annual<br>Contact: Stephan Roller (613) 951-4625            |
| 16        | <b>Absence from Work Survey</b><br>Frequency: Annual<br>Contact: Nancy Brooks (613) 951-4589                   |
| 17        | <b>Workers' Compensation statistics</b><br>Frequency: Annual<br>Contact: Joanne Proulx (613) 951-4040          |
| 18        | <b>Help-wanted Index</b><br>Frequency: Monthly<br>Contact: André Picard (613) 951-4045                         |
| 19-20     | <b>Unemployment Insurance statistics</b><br>Frequency: Monthly<br>Contact: André Picard (613) 951-4045         |
| 21-28     | <b>Survey of Employment, Payrolls and Hours</b><br>Frequency: Monthly<br>Contact: Cindy Ingalls (613) 951-4090 |

- |       |   |
|-------|---|
| 29-31 | <b>Labour Canada, major wage settlements</b><br>Frequency: Quarterly<br>Contact: Information (819) 997-3117   |
| 32-34 | <b>Labour income (Revenue Canada, Taxation-based statistics, Survey of Employment, Payrolls and Hours, and other surveys)</b><br>Frequency: Quarterly<br>Contact: Ed Bunko (613) 951-4048 |
| 35-45 | <b>Survey of Consumer Finances</b><br>Frequency: Annual<br>Contact: Kevin Bishop (613) 951-2211   |
| 46-52 | <b>Household Facilities and Equipment Survey</b><br>Frequency: Annual<br>Contact: Penny Barclay (613) 951-4634  |
| 53-54 | <b>Small Area and Administrative Data</b><br>Frequency: Annual<br>Contact: Customer Services (613) 951-9720   |

Notes on the method of deriving certain indicators are given at the end of the table.

### Additional data

The table provides 2 years of data for most indicators. A longer time series (generally 10 years) for this set of indicators can be obtained, on paper or diskette, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This 10-year dataset is updated quarterly. For information, contact Jeannine Usalcas at (613) 951-6889; fax (613) 951-4179.



## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>Labour market</b>							
1 Labour force	'000	1991	13,757	241	64	422	327
		1992	13,797	236	64	416	331
Change	%		0.3	-2.2	1.1	-1.4	1.2
2 Participation rate	%	1991	66.3	55.3	65.1	61.3	58.6
		1992	65.5	53.6	65.8	59.9	59.0
3 Employed	'000	1991	12,340	197	53	371	286
		1992	12,240	188	53	361	289
Change	%		-0.8	-4.4	0.1	-2.6	1.1
4 Proportion of employed working part time	%	1991	16.4	12.3	16.2	17.0	15.3
		1992	16.8	13.5	16.4	17.5	15.6
5 Proportion of part-timers wanting full-time work	%	1991	27.7	59.1	39.3	38.6	39.8
		1992	32.5	62.1	43.4	45.5	45.9
6 Unemployed	'000	1991	1,417	44	11	51	42
		1992	1,556	48	11	55	42
Change	%		9.9	7.2	6.2	7.8	1.9
7 Official unemployment rate	%	1991	10.3	18.4	16.8	12.0	12.7
		1992	11.3	20.2	17.7	13.1	12.8
<b>Alternative measures of unemployment</b>							
8 Unemployed 14 or more weeks as a proportion of the labour force	%	1991	4.6	9.3	6.3	5.2	5.2
		1992	5.5	10.2	7.3	6.0	5.4
9 Unemployment rate:							
- of persons heading families with children under age 16	%	1991	9.1	17.0	16.9	10.5	11.8
		1992	9.7	19.0	17.4	10.9	11.5
- excluding full-time students	%	1991	10.1	18.4	17.3	11.9	12.6
		1992	11.0	20.1	17.9	12.7	12.6
- including full-time members of the Canadian Armed Forces	%	1991	10.2	18.3	16.7	11.7	12.5
		1992	11.2	20.1	17.6	12.8	12.6
- of the full-time labour force	%	1991	12.4	21.6	20.4	15.0	15.5
		1992	13.6	23.6	21.4	16.6	16.0
- of the part-time labour force	%	1991	11.8	16.2	10.2	13.9	13.6
		1992	14.1	21.7	12.0	16.7	15.6
- including persons on the margins of the labour force	%	1991	11.0	22.2	18.4	13.0	14.8
		1992	12.1	24.4	18.7	14.1	14.8
10 Underutilization rate based on hours lost through unemployment and underemployment	%	1991	13.0	22.3	20.9	15.7	16.4
		1992	14.3	24.3	22.0	17.5	17.1
11 Proportion unemployed six months or longer	%	1991	23.3	28.2	--	21.1	21.4
		1992	28.1	29.3	--	23.9	22.2

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,392	5,276	541	484	1,357	1,652	..	..	1991	'000	1
3,385	5,286	535	480	1,370	1,693	..	..	1992		
-0.2	0.2	-1.2	-1.0	1.0	2.5	..	..		%	
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991	%	2
62.5	67.3	66.0	66.6	71.9	66.3	..	..	1992		
2,987	4,770	494	449	1,246	1,489	..	..	1991	'000	3
2,953	4,714	484	440	1,240	1,517	..	..	1992		
-1.1	-1.2	-2.0	-1.9	-0.5	1.9	..	..		%	
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991	%	4
15.1	17.3	19.4	18.4	16.4	18.0	..	..	1992		
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991	%	5
38.0	29.1	32.8	35.4	27.8	27.9	..	..	1992		
405	506	48	36	111	163	..	..	1991	'000	6
432	572	51	39	130	176	..	..	1992		
6.6	13.0	7.5	10.1	16.9	7.9	..	..		%	
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991	%	7
12.8	10.8	9.6	8.2	9.5	10.4	..	..	1992		
5.8	4.2	3.9	2.8	3.0	4.1	..	..	1991	%	8
6.8	5.4	4.0	3.4	3.8	4.5	..	..	1992		
10.4	8.3	7.4	6.6	7.5	9.0	..	..	1991	%	9
10.6	9.1	8.1	7.3	8.5	9.1	..	..	1992		
11.9	9.3	8.7	7.2	8.0	9.7	..	..	1991	%	
12.6	10.3	9.2	8.0	9.3	10.3	..	..	1992		
11.9	9.5	8.7	7.3	8.2	9.8	..	..	1991	%	
12.7	10.8	9.5	8.2	9.4	10.4	..	..	1992		
14.5	11.2	11.5	9.9	9.5	12.2	..	..	1991	%	
15.3	12.8	12.4	11.4	11.3	12.8	..	..	1992		
13.1	11.6	11.0	10.5	11.1	10.6	..	..	1991	%	
15.3	14.8	12.9	9.6	13.1	11.9	..	..	1992		
13.3	9.9	9.3	7.9	8.5	10.2	..	..	1991	%	
14.2	11.3	10.2	8.8	9.9	10.7	..	..	1992		
14.9	11.9	12.1	10.7	10.1	12.8	..	..	1991	%	10
15.8	13.6	13.1	12.1	12.1	13.3	..	..	1992		
27.4	22.7	22.3	18.0	17.9	20.9	..	..	1991	%	11
33.1	29.8	23.6	21.0	20.4	22.5	..	..	1992		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Other labour market indicators								
12	Employed at some time in the year, men, aged 16 to 69	'000	1989	7,707	158	37	241	197
	— as proportion of male population aged 16 to 69	%		85.8	81.3	87.0	83.5	82.1
		'000	1990	7,635	154	36	234	197
		%		83.9	79.4	85.8	80.2	81.3
	Employed at some time in the year, women, aged 16 to 69	'000	1989	6,364	124	32	197	164
	— as proportion of female population aged 16 to 69	%		69.2	63.9	74.6	64.4	66.0
		'000	1990	6,354	122	31	195	161
		%		68.4	62.9	72.2	63.2	64.6
13	Unemployed at some time in the year, men, aged 16 to 69	'000	1989	1,399	55	10	57	63
	— as proportion of male population aged 16 to 69	%		15.6	28.1	23.4	19.6	26.2
		'000	1990	1,434	53	10	53	51
		%		15.8	27.3	24.1	18.2	21.3
	Unemployed at some time in the year, women, aged 16 to 69	'000	1989	1,218	45	10	48	50
	— as proportion of female population aged 16 to 69	%		13.3	23.1	22.9	15.6	20.1
		'000	1990	1,157	45	9	45	41
		%		12.5	23.2	19.9	14.7	16.6
14	Full-time, full-year male paid workers	'000	1989	3,897	53	13	120	76
			1990	3,867	57	14	120	90
	Full-time, full-year female paid workers	'000	1989	2,613	33	11	76	52
			1990	2,674	39	12	84	61
15	Days lost per full-time worker per year through illness or for personal reasons	days	1991	9.4	10.6	8.0	9.7	9.4
			1992	9.2	10.7	7.9	9.0	8.9
*16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1991	6.3	5.0	4.8	5.6	6.5
			1992	5.6	4.1	4.0	5.4	6.0
17	Workers receiving Workers' Compensation for time-loss injuries	'000	1990	594	10	3	13	13
	Change	%	1991	521	9	2	13	12
				-12.4	-9.1	-11.8	-1.1	-6.7
18	Help-wanted Index (1991 = 100)		1991	100	100	100	100	100
			1992	86	88	96	87	82

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
1,949	2,939	294	267	731	894	..	..	1989	'000	12
83.4	81.1	84.7	84.8	87.8	84.9	..	..		%	
1,864	2,927	298	272	745	909	..	..	1990	'000	
78.9	86.4	85.1	87.4	88.1	84.4	..	..		%	
1,548	2,466	251	226	623	733	..	..	1989	'000	
64.1	72.1	70.8	71.3	75.2	68.5	..	..		%	
1,508	2,481	253	221	628	754	..	..	1990	'000	
61.9	71.6	71.3	71.5	74.9	68.8	..	..		%	
438	389	59	43	130	156	..	..	1989	'000	13
18.7	11.7	17.0	13.7	15.7	14.9	..	..		%	
446	453	57	42	108	161	..	..	1990	'000	
18.9	13.4	16.2	13.4	12.7	15.0	..	..		%	
343	371	47	35	95	176	..	..	1989	'000	
14.2	10.8	13.4	11.1	11.5	16.4	..	..		%	
328	372	44	34	91	148	..	..	1990	'000	
13.5	10.7	12.3	11.0	10.9	13.5	..	..		%	
978	1,570	149	123	355	460	..	..	1989	'000	14
939	1,600	135	106	356	449	..	..	1990		
657	1,081	101	82	260	261	..	..	1989	'000	
648	1,128	98	76	245	283	..	..	1990		
10.9	9.0	9.3	8.5	7.9	8.7	..	..	1991	days	15
10.7	9.0	8.4	8.1	7.7	8.6	..	..	1992		
7.8	6.0	6.1	5.0	4.9	6.2	..	..	1991	%	16
5.9	5.2	7.8	3.8	5.9	5.8	..	..	1992		
205	184	21	14	46	84	..	1	1990	'000	17
179	155	18	13	39	79	..	1	1991		
-12.7	-15.7	-15.3	-7.4	-15.6	-5.9	..	-6.7		%	
100	100	100	100	100	100	..	..	1991		18
87	87	93	83	76	87	..	..	1992		

See Notes and definitions at end of table.

## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>Unemployment Insurance</b>							
19	Total beneficiaries	'000	1991 1,365	80	15	63	65
			1992 1,388	81	16	65	67
	Change	%	1.7	1.6	5.0	2.7	2.5
20	Regular beneficiaries without reported earnings	'000	1991 1,024	63	11	46	51
			1992 1,006	63	11	46	51
	Change	%	-1.8	0.0	4.4	-1.0	-1.0
<b>Earnings (including overtime) and hours</b>							
21	Average weekly earnings in current dollars	\$	1991 531.58	499.24	429.29	476.30	480.62
			1992 549.80	510.65	444.70	491.10	494.39
	Change	%	3.4	2.3	3.6	3.1	2.9
22	Average weekly earnings in 1986 dollars	\$	1991 421.22	413.28	340.98	381.96	386.97
			1992 429.20	418.22	350.43	391.31	395.51
	Change	%	1.9	1.2	2.8	2.5	2.2
23	Average weekly earnings of salaried employees in current dollars	\$	1991 665.75	603.37	560.75	605.37	603.32
			1992 691.04	621.71	599.84	621.34	624.15
	Change	%	3.8	3.0	7.0	2.6	3.5
24	Average weekly earnings of salaried employees in 1986 dollars	\$	1991 527.54	499.48	445.39	485.46	485.76
			1992 539.45	509.18	472.69	495.09	499.32
	Change	%	2.3	1.9	6.1	2.0	2.8
25	Average weekly earnings of hourly paid employees in current dollars	\$	1991 409.98	379.14	284.23	363.17	382.63
			1992 421.51	381.63	285.01	375.98	393.56
	Change	%	2.8	0.7	0.3	3.5	2.9
26	Average weekly earnings of hourly paid employees in 1986 dollars	\$	1991 324.87	313.86	225.76	291.23	303.08
			1992 329.05	312.56	224.59	299.59	314.85
	Change	%	1.3	-0.4	-0.5	2.9	3.9
27	Average weekly hours of hourly paid employees	hrs	1991 30.8	33.8	31.0	31.6	33.3
			1992 30.5	33.5	30.4	31.7	33.1
28	Average weekly overtime hours of hourly paid employees	hrs	1991 0.9	1.2	0.4	0.6	0.7
			1992 0.8	0.9	0.3	0.6	0.7
<b>Major wage settlements</b>							
29	Number of agreements		1991 534	15	4	19	24
			1992 482	10	5	5	14
30	Number of employees covered	'000	1991 1,331	52	7	29	42
			1992 1,309	27	7	5	30
31	Effective wage increase in base rates	%	1991 3.6	2.3	7.2	0.5	2.5
			1992 2.1	0.1	0.3	1.9	1.6

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
427	391	41	30	90	159	2	2	1991	'000	19
433	400	40	31	97	154	2	2	1992		
1.2	2.4	-2.4	2.8	8.1	-2.7	-1.1	18.7		%	
330	286	28	22	67	116	1	2	1991	'000	20
322	285	26	21	69	108	1	2	1992		
-2.5	-0.5	-7.7	-1.0	2.9	-6.6	-4.0	15.2		%	
518.50	555.83	477.90	465.33	532.04	534.88	634.28	705.85	1991	\$	21
537.13	578.30	488.56	472.35	546.59	549.09	677.86	714.13	1992		
3.6	4.0	2.2	1.5	2.7	2.8	6.8	1.2		%	
410.21	435.60	382.32	370.19	427.00	432.05	..	..	1991	\$	22
417.35	448.29	385.30	371.93	432.43	431.67	..	..	1992		
1.7	2.9	0.8	0.5	1.3	-0.1	..	..		%	
630.62	701.53	611.79	615.88	688.98	660.39	761.59	790.35	1991	\$	23
654.66	733.38	632.38	618.11	703.25	682.99	835.62	813.88	1992		
3.8	4.5	3.4	0.4	2.1	3.4	9.7	3.0		%	
498.91	549.79	489.43	489.96	552.95	533.43	..	..	1991	\$	24
508.67	568.51	498.72	486.70	556.37	536.94	..	..	1992		
2.0	3.4	1.9	-0.7	0.6	0.7	..	..		%	
413.58	424.56	358.49	327.46	377.07	433.80	467.01	583.65	1991	\$	25
429.49	436.08	365.83	336.67	387.98	441.91	494.62	576.41	1992		
3.9	2.7	2.1	2.8	2.9	1.9	5.9	-1.2		%	
327.20	332.73	286.79	260.51	302.62	350.40	..	..	1991	\$	26
333.71	338.05	288.51	265.09	306.95	347.41	..	..	1992		
2.0	1.6	0.6	1.8	1.4	-0.9	..	..		%	
31.8	30.8	30.2	28.0	29.5	29.4	31.3	33.5	1991	hrs	27
31.5	30.6	30.0	28.3	29.3	29.2	31.0	33.1	1992		
0.8	0.9	0.7	0.7	1.3	0.9	1.9	3.4	1991	hrs	28
0.7	0.9	0.7	0.7	1.1	0.8	2.2	2.6	1992		
104	154	41	5	43	56	..	..	1991		29
84	169	17	8	43	66	..	..	1992		
450	269	75	11	56	72	..	..	1991	'000	30
464	343	19	13	76	170	..	..	1992		
3.2	5.8	2.4	4.4	5.3	5.0	..	..	1991	%	31
1.2	2.4	2.4	3.4	3.6	3.3	..	..	1992		

See Notes and definitions at end of table.



## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
32	Labour income in current dollars	\$ million	1991	379.0	5.2	1.2	9.4	7.5
			1992	345.3	4.6	1.1	8.6	7.0
	Change	%		-8.9	-11.3	-6.0	-8.5	-7.2
33	Labour income per employee in current dollars	\$	1991	35,200	30,200	26,800	29,100	30,000
			1992	32,500	28,000	24,900	27,300	27,200
	Change	%		-7.8	-7.3	-7.1	-6.3	-9.5
34	Labour income per employee in 1986 dollars	\$	1991	27,900	25,000	21,300	23,400	24,200
			1992	25,400	22,900	19,600	21,700	21,700
	Change	%		-9.2	-8.2	-7.8	-6.9	-10.1
35	Net income from self-employment as a proportion of money income	%	1990	5.2	3.6	7.6	5.4	4.9
			1991	5.5	3.7	6.6	4.4	4.2
Earnings of full-time, full-year workers								
36	Average earnings of men working full time, full year	\$	1990	36,900	30,000	27,100	33,200	32,500
			1991	38,600	33,400	30,500	35,300	34,700
	Change	%		4.6	11.2	12.8	6.2	6.9
37	Average earnings of women working full time, full year	\$	1990	24,900	21,900	21,700	24,000	21,400
			1991	26,800	24,500	24,700	23,200	23,000
	Change	%		7.7	11.8	14.0	-3.1	7.4
38	Ratio of female-to-male earnings	%	1990	67.6	73.0	80.0	72.1	65.8
			1991	69.6	73.4	80.8	65.8	66.1
Family income								
39	Average family income	\$	1990	51,600	40,800	39,700	44,400	42,400
			1991	53,100	41,700	42,800	45,100	44,300
40	Median family income	\$	1990	46,100	35,300	34,900	39,900	38,100
			1991	46,700	36,600	38,000	39,400	38,700
41	Average income of unattached individuals	\$	1990	22,600	19,200	17,700	20,000	18,400
			1991	22,500	18,200	16,500	19,100	19,900
42	Median income of unattached individuals	\$	1990	17,500	13,500	13,600	16,500	13,900
			1991	17,300	13,100	12,200	14,700	15,100
43	Average family taxes	\$	1990	10,200	6,500	6,000	7,900	7,200
			1991	10,500	6,700	7,000	8,100	7,600
44	Average family income after tax	\$	1990	41,400	34,300	33,700	36,500	35,200
			1991	42,600	35,000	35,800	37,000	36,700

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
88.1	160.5	12.3	9.6	36.9	46.2	0.5	1.2	1991	\$ million	32
78.5	145.7	11.3	8.7	34.3	43.5	0.6	1.2	1992		
-10.8	-9.2	-8.4	-8.7	-7.1	-5.9	8.3	1.8			
33,500	38,000	29,900	28,100	34,700	35,800	..	..	1991	\$	33
30,200	35,100	27,900	26,100	32,500	33,300	..	..	1992		
-9.7	-7.6	-6.5	-7.1	-6.4	-6.8	..	..			
26,500	29,800	23,900	22,300	27,800	28,900	..	..	1991	\$	34
23,500	27,200	22,000	20,500	25,700	26,200	..	..	1992		
-11.3	-8.6	-7.8	-8.0	-7.7	-9.3	..	..			
4.5	5.4	5.3	8.7	5.9	4.9	..	..	1990	%	35
4.3	5.7	6.7	10.3	6.4	5.5	..	..	1991		
35,500	39,300	30,900	28,300	36,000	39,700	..	..	1990	\$	36
36,700	41,500	31,900	31,900	39,300	38,700	..	..	1991		
3.3	5.6	3.4	12.8	9.3	-2.5	..	..			
24,400	25,900	22,400	21,300	24,100	26,500	..	..	1990	\$	37
25,700	29,000	23,800	22,100	25,300	27,100	..	..	1991		
5.7	11.7	6.5	3.9	5.1	2.5	..	..			
68.5	66.0	72.5	75.4	67.0	66.8	..	..	1990	%	38
70.1	69.8	74.7	69.4	64.5	70.2	..	..	1991		
47,200	57,000	47,200	44,200	52,000	54,400	..	..	1990	\$	39
48,600	58,600	46,600	45,900	55,600	54,900	..	..	1991		
42,000	50,900	42,900	38,400	47,200	49,200	..	..	1990	\$	40
42,700	52,000	41,300	40,900	48,100	50,600	..	..	1991		
20,300	24,800	20,200	19,800	23,800	23,900	..	..	1990	\$	41
20,700	24,700	20,400	20,000	23,500	22,600	..	..	1991		
14,500	19,800	15,800	15,300	19,200	19,000	..	..	1990	\$	42
15,200	20,000	16,000	14,600	19,100	18,200	..	..	1991		
9,600	11,500	8,500	8,100	9,900	10,900	..	..	1990	\$	43
10,100	11,800	8,300	8,600	11,000	10,600	..	..	1991		
37,500	45,500	38,700	36,100	42,100	43,600	..	..	1990	\$	44
38,500	46,900	38,300	37,400	44,500	44,300	..	..	1991		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
45	Proportion below the low income cut-off (1986 base):							
	- families	%	1990 1991	12.1 13.1	14.3 16.4	10.2 9.9	12.0 12.9	12.7 12.3
	- unattached individuals	%	1990 1991	34.1 36.5	38.9 41.3	31.9 40.5	27.6 35.6	34.6 35.6
	- persons (population)	%	1990 1991	14.6 16.0	15.6 17.6	12.5 13.2	13.4 15.5	14.3 14.3
	- children (less than 18 years)	%	1990 1991	16.9 18.3	19.6 20.3	13.7 14.5	16.5 20.2	17.1 18.1
	- elderly (65 years and over)	%	1990 1991	19.3 20.0	16.2 16.8	16.2 13.7	13.0 16.1	13.9 14.3
	Households and dwellings							
46	Estimated number of households and dwellings	'000	1991 1992	9,873 10,056	177 177	47 46	326 329	251 256
47	Average household income	\$	1990 1991	45,300 46,100	38,400 39,200	35,000 37,700	39,800 39,800	38,200 40,200
48	Proportion of households with:							
	- VCRs	%	1991 1992	68.6 73.8	67.8 74.6	59.6 69.6	67.8 75.4	66.5 73.4
	- microwaves	%	1991 1992	73.5 76.0	65.0 68.9	63.8 69.6	72.4 76.9	72.5 76.2
	- two or more automobiles	%	1991 1992	25.1 24.6	13.6 11.9	21.3 23.9	20.2 20.1	20.3 19.9
	- vans and trucks	%	1991 1992	22.2 26.8	34.5 36.2	31.9 32.6	25.8 28.9	30.3 34.0
	- air conditioners	%	1991 1992	26.7 26.7	-- --	-- --	3.7 4.9	6.4 6.6
49	Proportion of owner-occupied dwellings	%	1991 1992	63.7 63.1	78.5 78.5	70.2 69.6	71.8 71.4	76.5 75.4
50	Proportion of all owner-occupied dwellings that are mortgage free	%	1991 1992	51.3 50.6	71.2 68.3	60.6 53.1	56.8 57.0	56.2 56.0
51	Dwellings in need of repair as a proportion of all occupied dwellings	%	1991 1992	24.5 26.7	30.5 31.1	27.7 28.2	31.9 34.3	34.7 32.4
52	Median rent-to-income ratio	%	1991 1992	21 22	16 16	23 23	21 22	20 19

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										45
14.5	9.8	14.4	14.0	12.9	11.9	..	..	1990	%	
15.9	11.2	17.1	13.4	13.1	11.1	..	..	1991	%	
44.0	28.5	35.7	29.3	32.6	31.0	..	..	1990	%	
44.2	31.8	38.2	34.5	33.4	35.7	..	..	1991	%	
18.0	11.7	17.8	16.6	15.4	14.6	..	..	1990	%	
19.2	13.5	21.1	17.1	15.9	15.1	..	..	1991	%	
18.1	14.7	22.0	20.4	18.3	16.9	..	..	1990	%	
19.7	17.0	26.9	21.0	18.7	14.5	..	..	1991	%	
28.8	15.8	19.8	10.0	19.2	18.0	..	..	1990	%	
26.1	18.0	21.4	11.0	18.7	20.7	..	..	1991	%	
2,618	3,585	389	359	898	1,225	..	..	1991	'000	46
2,656	3,647	396	359	912	1,278	..	..	1992	'000	
40,500	50,600	40,500	38,200	46,200	47,100	..	..	1990	\$	47
41,600	51,500	39,700	39,600	48,700	46,000	..	..	1991	\$	
										48
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
69.1	76.8	71.2	69.4	78.4	73.3	..	..	1992	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
72.9	77.7	75.5	81.3	81.0	73.6	..	..	1992	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
20.9	27.9	22.2	21.7	28.4	25.0	..	..	1992	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
17.4	23.3	31.1	44.6	43.4	35.1	..	..	1992	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
14.0	48.6	49.0	34.3	10.0	7.5	..	..	1992	%	
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	49
55.0	63.9	67.4	71.6	65.5	65.7	..	..	1992	%	
47.5	50.2	55.3	63.1	48.8	52.0	..	..	1991	%	50
47.3	48.0	56.2	60.3	47.9	54.5	..	..	1992	%	
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	51
25.1	25.4	32.1	30.6	28.7	24.8	..	..	1992	%	
20	22	21	22	21	24	..	..	1991	%	52
20	23	23	21	21	25	..	..	1992	%	

See Notes and definitions at end of table.

## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>53 Labour force income profile</b>							
Number of taxfilers	'000	1990	18,450	372	86	606	496
Income:							
Number reporting	'000	1990	18,407	371	86	604	495
Amount	\$ million	1990	454,628	6,897	1,662	12,939	9,904
Median	\$	1990	19,100	13,800	15,400	16,500	15,300
Canadian index	%	1990	100.0	72.3	80.6	86.4	80.1
Labour force income:							
Number reporting	'000	1990	14,255	292	68	455	372
Amount	\$ million	1990	348,535	5,577	1,267	9,830	7,590
Employment income:							
Number reporting	'000	1990	14,028	279	67	445	363
Amount	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Median	\$	1990	19,300	10,700	11,800	16,300	14,300
Canadian index	%	1990	100.0	55.4	61.1	84.5	74.1
Self-employment income:							
Number reporting	'000	1990	1,874	31	12	52	35
Amount	\$ million	1990	20,724	238	104	660	344
Unemployment Insurance benefits:							
Number reporting	'000	1990	3,044	144	28	134	131
Amount	\$ million	1990	12,215	809	145	594	646
Canadian index	%	1990	100.0	467.2	355.4	177.1	256.5
<b>54 Economic dependency profile</b>							
Transfer payments:							
Amount	\$ million	1990	68,543	1,758	397	2,572	2,176
Employment income	\$ million	1990	336,320	4,769	1,122	9,236	6,944
Economic dependency ratio (EDR)	%	1990	20.38	36.87	35.41	27.85	31.34
Canadian index	%	1990	100.0	180.9	173.7	136.7	153.8
Unemployment Insurance benefits:							
Amount	\$ million	1990	12,215	809	145	594	646
Contribution to EDR	%	1990	3.63	16.96	12.90	6.43	9.31
Family Allowance benefits:							
Amount	\$ million	1990	2,577	63	14	87	74
Contribution to EDR	%	1990	0.77	1.32	1.22	0.94	1.06
Federal sales tax credits:							
Amount	\$ million	1990	1,708	47	9	64	56
Contribution to EDR	%	1990	0.51	0.98	0.85	0.69	0.81
Child Tax Credit benefits:							
Amount	\$ million	1990	2,128	65	14	80	72
Contribution to EDR	%	1990	0.63	1.37	1.26	0.86	1.04
Old Age Security benefits:							
Amount	\$ million	1990	9,921	166	50	343	269
Contribution to EDR	%	1990	2.95	3.47	4.48	3.72	3.88
CPP/QPP benefits:							
Amount	\$ million	1990	12,008	176	49	435	306
Contribution to EDR	%	1990	3.57	3.70	4.41	4.71	4.41
Other pension benefits:							
Amount	\$ million	1990	16,164	203	60	590	386
Contribution to EDR	%	1990	4.81	4.25	5.34	6.39	5.55

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
4,693	6,888	757	642	1,660	2,202	18	30	1990	'000	53
4,681	6,873	756	640	1,656	2,198	18	30	1990	'000	
104,854	187,842	16,321	13,574	42,208	57,057	479	889	1990	\$ million	
17,400	21,400	16,800	16,300	19,500	20,000	22,800	21,600	1990	\$	
91.1	112.0	88.0	85.3	102.1	104.7	119.4	113.1	1990	%	
3,517	5,409	559	490	1,364	1,686	16	27	1990	'000	
81,426	144,240	11,878	9,602	33,255	42,637	426	807	1990	\$ million	
3,444	5,350	549	484	1,347	1,658	15	27	1990	'000	
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
18,500	21,500	16,800	14,600	19,100	20,000	22,200	23,400	1990	\$	
95.9	111.4	87.0	75.6	99.0	103.6	115.0	121.2	1990	%	
340	675	101	137	239	248	2	2	1990	'000	
4,258	8,585	824	985	1,830	2,864	17	15	1990	\$ million	
942	889	103	82	221	360	4	5	1990	'000	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
141.0	60.9	86.8	84.6	69.1	95.6	146.6	80.2	1990	%	
17,488	25,075	2,979	2,401	5,003	8,576	46	71	1990	\$ million	54
77,460	141,121	11,515	9,315	32,440	41,208	404	785	1990	\$ million	
22.58	17.77	25.87	25.77	15.42	20.81	11.32	9.10	1990	%	
110.8	87.2	126.9	126.4	75.7	102.1	55.5	44.7	1990	%	
3,966	3,119	363	286	815	1,429	21	23	1990	\$ million	
5.12	2.21	3.15	3.07	2.51	3.47	5.32	2.91	1990	%	
633	913	111	110	267	295	3	8	1990	\$ million	
0.82	0.65	0.97	1.18	0.82	0.72	0.71	0.99	1990	%	
467	552	85	76	155	193	1	3	1990	\$ million	
0.60	0.39	0.74	0.81	0.48	0.47	0.35	0.37	1990	%	
555	647	111	116	226	232	2	8	1990	\$ million	
0.72	0.46	0.96	1.25	0.70	0.56	0.55	0.98	1990	%	
2,411	3,711	506	445	707	1,306	3	4	1990	\$ million	
3.11	2.63	4.40	4.78	2.18	3.17	0.72	0.54	1990	%	
2,835	4,824	523	454	849	1,549	4	4	1990	\$ million	
3.66	3.42	4.54	4.87	2.62	3.76	1.08	0.48	1990	%	
3,274	6,877	645	529	1,205	2,383	7	5	1990	\$ million	
4.23	4.87	5.60	5.68	3.72	5.78	1.63	0.67	1990	%	

See Notes and definitions at end of table.



## Key labour and income facts

### Notes and definitions

#### No.

- 1 Persons aged 15 and over who are employed or unemployed.
- 2 Labour force as a proportion of the population aged 15 and over.
- 4 Persons who usually work less than 30 hours per week.
- 7 Unemployed as a proportion of the labour force.
- 8 This rate, and rates shown as Indicators 9 and 10, are described in *Perspectives on labour and income* (Quarterly, Catalogue 75-001E), Winter 1992, pp. 35-43.
- 9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.  
  
The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.  
  
"On the margins of the labour force" includes persons not looking for work because they believe none is available or because they are waiting for recall or for replies from employers.
- 10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.

#### No.

- 29 Data are for agreements involving bargaining units of 500 or more employees. Canada figures include workers covered by federal labour legislation plus agreements involving workers in more than one province.
- 32 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, Workers' Compensation and Unemployment Insurance).
- 33 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent the entire reference week without pay.
- 45 For an explanation of the methodology underlying the low income cut-offs, see *Income distributions by size in Canada* (Annual, Catalogue 13-207).
- 53-54 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.

## *In the works*

Here are some of the topics to be featured in upcoming issues of *Perspectives on labour and income*.

---

■ **An interview with Laurence E. Coward**

Canada's "Mr. Pensions" discusses retirement issues facing employers, workers, and pensioners.

---

■ **School leavers**

The transition from school to work can be difficult, particularly for young people who leave high school without graduating. This study looks at their labour market and income situation.

---

■ **Environmental hazards**

Several environmental conditions in the workplace, including the widely publicized "sick building syndrome," have been associated with health problems. This article deals with the frequency and level of exposure to potential hazards as reported by workers in different occupations.

---

■ **RRSPs – changed rules and dramatic growth**

Major revisions in the tax treatment of retirement savings came into effect in 1991. This study examines how much RRSP contribution room was made available, how much was used up, and who were the contributors.

---

■ **Training of job losers**

This note examines the training undertaken by workers aged 25 to 54 who have lost their jobs or been laid off. It also compares the characteristics of these trainees with those of unemployed job losers who did not take training during the reference year.

---

■ **Occupational training**

Many occupations are changing rapidly, and the people in those occupations have to learn new skills to keep up with the demands of the labour market. This article looks at employer-sponsored training by occupation.

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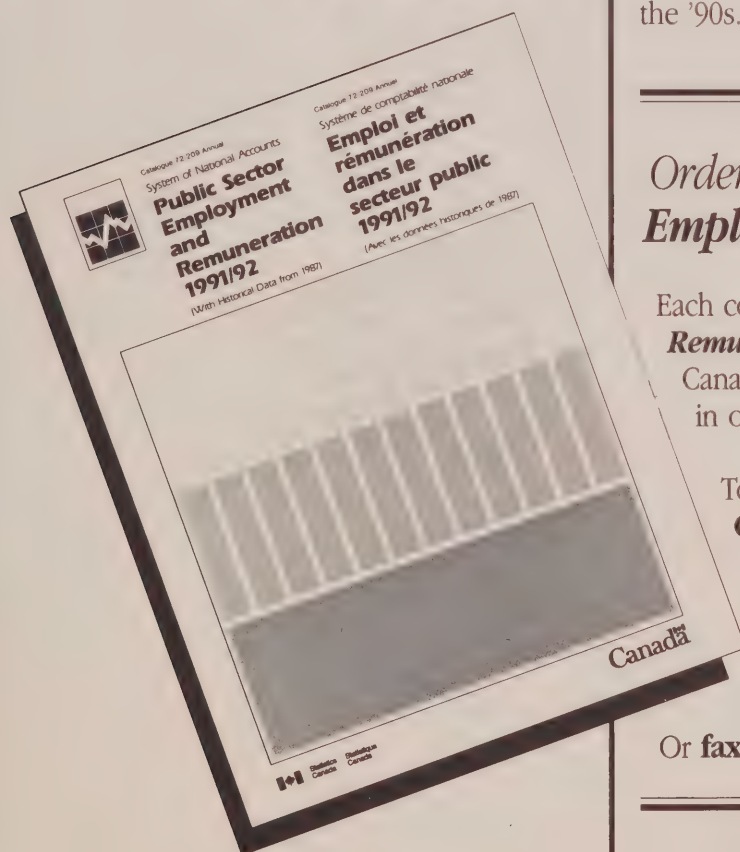
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ON LABOUR AND INCOME

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# PERSPECTIVES

ON LABOUR AND INCOME

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### Symbols

The following standard symbols are used in Statistics Canada publications:

- .. figures not available
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## Forum

### From the Editor-in-Chief

■ For over a year, we have been receiving ideas, suggestions and comments from our readers via the questionnaire included with each issue of *Perspectives*. Your efforts are appreciated, so I would like to turn this instalment of Forum over to you.

One reader observed, *The labour market review considers three groups: males over 25, females over 25 and youths. It would be interesting to see the sex breakdown in the youth category.* We normally group youths for analytical purposes, because there really is not much difference between the labour market activity of men and women under the age of 25. However, we will be attentive to making the gender distinction when important differences warrant it. Another reader asks, *Over 60 and still working (at what?).* Early retirement has captured the spotlight in the past few years, and we tend to forget that less than half of all male workers leave the labour force before they reach age 60. Following up an idea like this would provide a "reality check," and we plan to do so.

One recent question, *Anything on employment incomes of the disabled?*, is well-timed. The income and employment data from the 1991 Health and Activity Limitation Survey have just been released, and we will be doing a follow-up to the Winter 1989 article "Disabled workers." One note proposes that we examine *Older workers with minimal education (unemployed)*. These workers are the subject of a special

analytical report currently being written, and from which we intend to cull worthwhile articles. *Personal mortgage payments as percentage of income*, was suggested by someone else; this is a good idea that we will start working on soon. *The relationship between skill levels and employment*, which we interpret to mean "Are people getting the jobs they trained for?", is a topic we will tackle using the National Graduate Surveys.

On occasion, we simply can't follow up an idea. Sometimes the necessary data do not exist; sometimes the data are just not reliable enough. *Design material to have more application in the micro/plant level* is one suggestion we cannot accept because of confidentiality (sample size) constraints at the establishment or plant level. But we can provide industry averages, which readers can use to compare their own firm's performance.

*Current "predictions" on occupations expected to be stable and/or high growth. Studies of "occupational outlook" (predictions); how accurate they have been – predictive validity.* We like to steer clear of "predictions" – extrapolating from trends is more our style; nevertheless, we take the point about examining specific occupations (say, optometrist) rather than occupational groups (health professionals).

Another reader wanted articles on *The incidence of "stay-at-home," non-working fathers and the dynamics of the working family.* This is a rather intriguing suggestion, but Labour Force Survey data show that in 1992, there were fewer than

18,000 men with children who had left the workforce to meet personal or family responsibilities. This number is not large enough to perform any meaningful analysis. With reference to the family, we are trying to improve our coverage of this important topic; we have published several articles recently, and will be publishing other studies in the near future. We tackled *Statistics on number of employees being "down-sized" from the workforce* in "Workers on the move: Permanent layoffs" (Autumn 1992) but with the available data we cannot determine if down-sizing is the reason for a given layoff.

Writing *More on emerging industries' employment patterns, more focus on labour market flows* requires the kind of data obtainable only from longitudinal surveys. Statistics Canada has recently embarked on several such surveys. The Survey on Labour and Income Dynamics (SLID) is probably of particular interest to *Perspectives* readers, but the National Population Health Survey and the National Longitudinal Survey of Children, both promising valuable data, are also going into the field fairly soon.

Several readers have made interesting proposals, but we cannot possibly attempt them. If an analytical study was to comment on government programs or policies, we would compromise Statistics Canada's reputation as an impartial, non-partisan collector and analyzer of data. For example, we could never estimate the *Government "cost" of managing unemployment, and related general and administrative expenses*.

It is just as valuable to tell us what you dislike or find irrelevant, as it is to let us know what you like. The last form of criticism we want is a lapsed subscription, which simply tells us that you no longer find *Perspectives* useful but does nothing to let us know what could have been done to change it. Sometimes, though, likes and dislikes clash.

*Less emphasis on percentages which are hard to read and follow. More text says one reader, while a professor of economics wants More hard analysis, rather than the very broad descriptive sketches usually offered.* We do our best to limit the volume of numbers in the articles, but sometimes not to the extent that some of you would like. Since our priority is to keep articles accessible to people without a statistical background, we may have to resign ourselves to not fully satisfying all of our readers. Writes another professor, *I am troubled that this [interview with Dian Cohen] is in Perspectives. What I like about Perspectives is that it provides facts rather than ideologies.* Should our interviews be limited to discussions of facts alone? Or is there room for opinions?

What is at stake if you don't voice your preferences? Statistics Canada has a tremendous range of data to support analysis of an equally wide range of topics. If we don't know what you're interested in, we can easily pass by the subject of your choice. One reader's idea challenges a very conventional labour market wisdom: *Is there really a shortage of young workers? Many people cannot accept the shortage view. You might want to look at other indicators.* This is something we would not have thought of. We provided some assessment of the *impact of technological changes on employees who work "pushing paper,"* using the 1989 General Social Survey (see "Computers in the workplace," Summer 1991). The survey will be repeated next year, and we will revisit this topic when the 1994 data are available.

All of our readers' comments are thought-provoking, and some of them are just plain nice. Someone clearly identified one of our principal goals: *A good summary of information from a variety of sources – would take considerable time and resources to gain this from other sources.* And an employment counsellor gave us his vote of confidence, describing *Perspectives* as a *great resource for those of us working directly with the public.*

Every completed reader survey, fax, phone call, or letter to the editor helps to create a publication that better reflects your needs and interests. We thank you for your feedback.

Ian Macredie  
Editor-in-Chief



**We welcome your views** on articles and other items that have appeared in *Perspectives on labour and income*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Susan Crompton, Forum and What's new? Editor, *Perspectives on labour and income*, 5-D Jean Talon Building, Statistics Canada, Ottawa, K1A 0T6. Telephone (613) 951-0178; fax (613) 951-4179.



## Highlights

*Here are some key findings from the articles in this issue of Perspectives on labour and income.*

### **A note on the recession and early retirement**

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■ In November 1992, there were over 1.5 million retirees aged 50 to 69 in Canada. For about half of this group, the timing of their retirement had been anticipated; for the remaining group, retirement came earlier than planned.

■ During the 1990-92 recession, early retirement for economic-related reasons (lay-off, company closure, early retirement plan or incentive) ranked ahead of illness or disability: 42% versus 30%. This contrasted with the three-year period preceeding the recession (1987-89) where illness or disability (36%) outweighed economic-related reasons (28%).

### **Labour market outcomes for high school leavers**

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■ The occupational distribution of employed high school leavers and graduates aged 18 to 20 differed sharply in 1991. Among men, a higher proportion of leavers (61%) than graduates (47%) had blue-collar jobs. On the other hand, clerical, sales and service occupations together accounted for a

larger share of male graduates than leavers (44% compared with 28%).

■ Among women, leavers were more likely than graduates to be in service occupations: 40% versus 26%. Alternatively, the percentage of female graduates in clerical positions (39%) was almost double that of female high school leavers (20%).

■ Both leavers and graduates had very modest incomes, undoubtedly reflecting their low level of education and entry-level jobs. For example, in the 12 months before the survey, 51% of both male leavers and graduates had a pre-tax total personal income of \$10,000 or less. The figures for women were even less favourable, with 60% of leavers and 66% of graduates reporting this amount of personal income.

■ Most high school leavers and graduates seemed to acknowledge their need for additional training. In fact, 95% of leavers and 97% of graduates either planned to take further training or were interested in acquiring new skills.

### **A recession for whom?**

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■ Payrolls (total wages and salaries) in the goods-producing industries were plunging even before the official onset of the recent recession, whereas in the service-producing industries payroll growth continued through the downturn, but at a slower rate.

■ Between the third quarter of 1989 and the third quarter of 1991, the annual rate of change in payrolls in the goods-producing industries fell from +9.4% to -7.9%. At the end of 1992, payrolls were still declining slightly (-1.2%).

■ Over the same period, payroll growth in the service-producing industries declined from 10% to less than 1% and then rebounded to 2.4% by the end of 1992.

■ The relative stability of service industry payrolls over the business cycle stems from its non-commercial component (health and welfare, education, and public administration).

#### **An interview with Laurence E. Coward**

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■ "In the old days, I would have said join the high contribution, high benefit pension plan and then stop worrying about your retirement. But now, flexibility is demanded more and more, and a lot of people would prefer to have a non-contributory basic benefit from the employer and more room to put their own money aside ... in registered retirement savings or ... (to) buy a house."

■ "U.S. legislation has raised the retirement age for social security benefits to age 67 for the full pension, and the early retirement age to 62. It will be in full effect by the year 2027. I think that is very likely to come to Canada because of the ever-growing costs of the Canada Pension Plan."

■ "I believe we will see a great growth in registered retirement savings plans, partly because employers will find them more flexible than pension plans; it is also highly likely that there will be regulation of RRSPs beyond what we have now, in order to put in some safety measures to protect employees."

#### **RRSPs – new rules, new growth**

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■ In 1991, contributions to registered retirement savings plans (RRSPs) jumped 30%, while the number of contributors increased by 14%. These gains occurred largely in response to new rules, which standardized the tax treatment of all private retirement programs and increased RRSP contribution opportunities (RRSP room) for many taxfilers.

■ In 1991, taxfilers deposited \$12.1 billion in RRSPs. This amount represents 28% of the \$42.9 billion RRSP room available that year. More than 31% of the nearly 14.3 million taxfilers with room made RRSP deposits.

■ The likelihood of participating in an RRSP increases with age. Nearly half the taxfilers in their 50s with RRSP room contributed, using up 42% of their available room. Only 24% of those aged 25 to 29 contributed.

■ The linking of pension and profit sharing plan membership with RRSP participation shows that in 1991, 44% of all taxfilers aged 18 to 64 accumulated some form of retirement savings in any one of the following: employer-sponsored pension plans, deferred profit sharing plans or RRSPs. This was the case for half of the male taxfilers in that age group compared with only 38% of their female counterparts.

#### **Defining and measuring employment equity**

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■ Proclaimed August 13, 1986, the Employment Equity Act was legislated to achieve workplace equality in the federal sphere for four designated groups: women, visible minorities, aboriginal peoples and persons with disabilities.

■ This article explains the concepts, definitions and questions used by Statistics Canada to provide benchmark data for the population against which employers can measure their own workforce in terms of the representation of these four groups.

■ The Census of Population is the source of employment equity data on women, visible minorities and aboriginal peoples. Data on persons with disabilities come from the Health and Activity Limitation Survey.

#### What's new

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■ In January 1990, the Labour Force Survey (LFS) changed its questions on education to collect more detailed data on educational attainment levels. A study in the August 1993 issue of *The labour force* (71-001) compares the new LFS estimates with those of the 1991 Census.

■ A new publication on the labour market experiences of adults with disabilities presents important findings from the 1991 Health and Activity Limitation Survey.

■ A summary report of presentations made at the "International conference on the measurement and valuation of unpaid work" is now available.

■ Results of one of the most extensive studies on human resource management (HRM) in Canada are now becoming available. The HRM Project, begun by the Economic Council of Canada and continued by Queen's University, assesses the impact of human resource practices on economic competitiveness and the labour market.

■ The 1993 edition of *Report on the demographic situation in Canada* devotes a section to the characteristics of the Mexican population. □



# A note on the recession and early retirement

Jason Siroonian

**W**hen planned and anticipated, retirement can be a wonderful experience. But not everyone who leaves the workforce does so of their own accord or when expected.

In November 1992, there were over 1.5 million retirees aged 50 to 69 in Canada. For about half of this group, the timing of their retirement had been anticipated; for the other half, retirement came earlier than they had planned.

By convention, early retirement is considered to mean retirement before the traditional age of 65. However, in this note, early retirement refers only to those that occurred *earlier than planned*. This definition allows us to investigate workers whose careers have been unexpectedly curtailed.

## Why do workers retire earlier than planned?

Workers retire early for a variety of reasons. According to the Survey of Persons Not in the Labour Force<sup>1</sup> (see *Data source*), the most common one, reported by 36%, was their own illness or disability. In addition, 18% retired early because they wanted to stop working, 14% because they were offered an early retirement plan or incentive, and a further 14% because of layoffs or plant closures.

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Jason Siroonian was formerly with the Labour and Household Surveys Analysis Division. For more information concerning this article, contact Gary L. Cohen at (613) 951-4623.

In particular, early-retirement incentives, as well as layoffs and business closures are suspected of having fuelled an increase in early retirement during the recent recession. To determine if there is a relationship between the state of the economy and early retirement, this note compares retirement patterns during two three-year periods: the pre-recession years, 1987-1989, and the recession years, 1990-1992.<sup>2</sup>

## Early retirement during the recession

During the 1990-92 recession years, 211,000 persons retired earlier than planned, an 11%

### Persons not in the labour force who retired earlier than planned

	Period of retirement	
	1987-89	1990-92
	'000	
Retired earlier than planned	190	211
Reasons for early retirement		
Illness or disability	69	63
Economic-related reasons	54	88
Incentive	34	43
Closure/layoff	20	45
All other reasons*	68	60

Source: Survey of Persons Not in the Labour Force, November 1992.

\* Includes care for relative or friend, wanted to stop working, other reasons and not stated.

Note: Estimates may not add up to totals due to rounding.

rise from 190,000 for the previous three-year period (Table). Was this increase in early retirement related to the state of the economy?

The early 1990s were a difficult time for Canadian employers in both the public and private sectors. Many of them found it necessary to restructure and reduce their workforce while other, less successful businesses were forced to close. As a result, workers became unemployed. Some of them decided to withdraw from the labour force and retire sooner than planned. The number of workers who retired early due to layoffs or closures in the 1990-92 period (45,000) was more than double the number for the 1987-89 period (20,000).

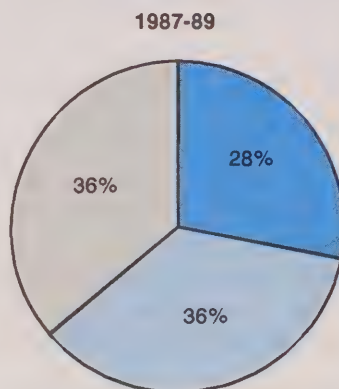
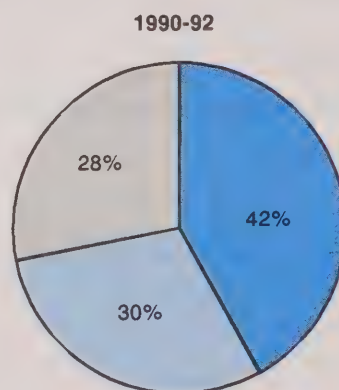
To avoid layoffs but still downsize, some firms offered "golden handshakes" to older workers. During the 1990-92 recession, 43,000 retirees reported a cash-out or an early retirement package as their main reason for retiring early. This figure was up 28% from 34,000 for the previous three-year period.

### Own illness or disability number one reason

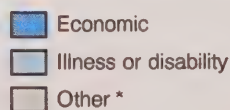
Though the numbers declined slightly from 69,000 to 63,000, own illness or disability was the foremost single reason for early retirement during both periods, accounting for 36% and 30% of early retirees in the pre-recession and recession years, respectively.

But, if the economic-related reasons (layoff, company closure, and early retirement plan or incentive) are combined into one category, the picture changes (Chart). Using this new grouping, for the pre-recession period, illness or disability still ranks above economic-related reasons: 36% compared with 28%. However, for the recession years, economic-related reasons top the list (42%), followed by illness or disability (30%).

**During the 1990-92 recession, economic factors were the main reason for early retirement.**



Reason for retiring earlier than planned



Source: Survey of Persons Not in the Labour Force, November 1992

\* Includes care for relative or friend, wanted to stop working, other reasons, and not stated.

## Summary

The data suggest a link between the state of the economy and the number of workers retiring earlier than planned. An increased number of workers retired early due to layoffs and plant closures during the recent recession. In addition, offers of early-retirement packages coaxed even more workers out of the labour force. And while own illness and disability was the leading reason for early retirement in the pre-recession period, economic-related reasons were the main motive for early retirement during the recession. □

## Data source

The Survey of Persons Not in the Labour Force was designed to gather more comprehensive data on the approximately seven million Canadian adults who are neither working nor looking for work. The survey was partly driven by the fact that labour force participation rates have been dropping steadily in recent years. This situation has generated a need for more information on the people who are not in the job market. Data were collected on past attachment to the labour force and plans to rejoin it; current non-labour market activities; financial resources of the family; educational plans of youths neither working nor attending school; and reasons for early retirement. For more information, contact Deborah Sunter at (613)951-4740.

## Notes

<sup>1</sup> The Survey on Persons Not in the Labour Force, a supplement to the monthly Labour Force Survey, focused on individuals not in the labour force aged 15 to 69. The set of questions relating to the circumstances concerning retirement were asked of respondents (not in the labour force) aged 50 to 69 only. Although the decision to retire earlier than planned may be based on several factors, this survey asked for the main reason only.

<sup>2</sup> The Survey of Persons Not in the Labour Force provided a snapshot of the survey population aged 15 to

69, as they were in November 1992. The analysis in this note, however, uses this data to investigate early retirement over a period of time. This application has some limitations. Factors such as mortality, entry into the labour force, and the specification of the survey population could affect the results.

The 1990-92 analysis period excludes December 1992 since the survey was conducted in November of that year. Therefore, the figures presented slightly underestimate the number of persons who retired earlier than planned during the recession years.

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# Labour market outcomes for high school leavers<sup>1</sup>

Sid Gilbert

**W**hether students graduate from high school or leave before completion has important employment consequences. Job prospects for young people lacking a high school diploma are grim. Even those who graduate but receive little or no further training face stiff competition on the job market. The latter, however, do at least possess the minimum academic credentials that most employers demand and that are necessary to enter postsecondary institutions.

According to Statistics Canada's School Leavers Survey (SLS), in 1991, approximately 152,000 18 to 20 year-olds were "leavers"<sup>2</sup> in that they had withdrawn from high school before graduating and had received little or no additional formal instruction (see *Data source*). A somewhat larger number (189,000) of 18 to 20 year-olds were high school graduates who had little or no further education or training. A comparison of these two groups reveals the effect that a high school diploma alone has on early labour market experiences and income.<sup>3</sup> This comparison is apt to be a conservative estimate of the impact of high school completion, because some of the leavers had been out of school for five or more years and, therefore, had more time than did the graduates to find employment.

---

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## Employment patterns

The majority of both leavers and graduates had held a job at some time since leaving school. There was little difference among the men, with more than nine out of ten male leavers and graduates reporting that they had worked. By contrast, female graduates were more likely than female leavers to have been employed (92% versus 84%).

In the spring of 1991, fewer than two-thirds of male leavers were employed, compared with three-quarters of male graduates (Chart A). This discrepancy was ironic in that work-related considerations had been among the main reasons for male leavers' decision to quit school (see *Why did they leave?*).

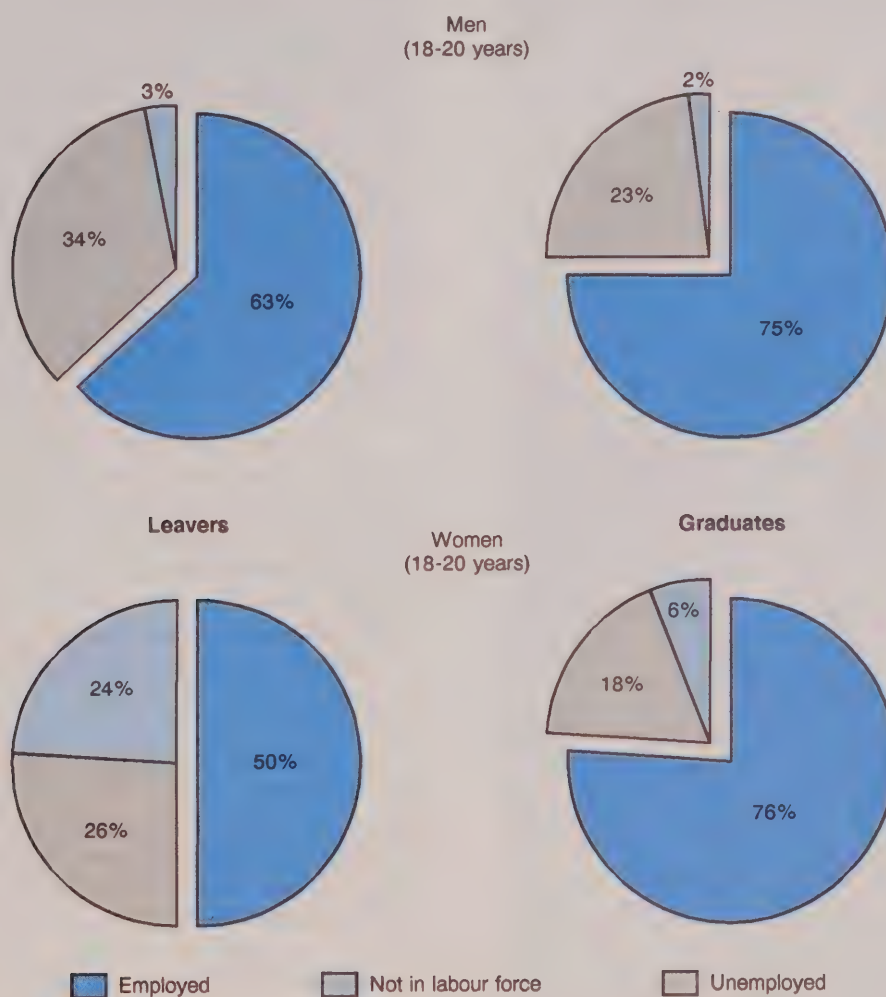
The same pattern held among women, with just half of female leavers working, compared with three-quarters of graduates. With regard to unemployment, the proportion of female leavers who were unemployed exceeded that of graduates (26% versus 18%). The most notable difference between the two groups was in the proportion outside the labour force: close to 25% of the female leavers, compared with only 6% of the graduates.

## Different jobs

The occupational distributions of employed leavers and graduates differed sharply. Among men, a higher proportion of leavers

Chart A

High school leavers were less likely than graduates to be employed.



Source: 1991 School Leavers Survey

(61%) than graduates (47%) had blue-collar jobs. On the other hand, clerical, sales and service occupations together accounted for a larger share of jobs held by male graduates than by leavers (44% compared with 28%).

The occupations of female leavers and graduates also varied. Leavers were more likely than graduates to be in service occupations: 40% versus 26%. Alternatively, the percentage of female graduates in clerical positions (39%) was almost double that of female leavers (20%).

## Long hours

Male leavers tended to work longer hours than did male graduates. In part, this may reflect the leavers' concentration in blue-collar occupations where overtime is common (Cohen, 1993). While the same proportion (73%) of male leavers and graduates put in workweeks of 40 or more hours, a quarter (26%) of the leavers worked 50 or more hours a week, compared with 17% of the graduates.

### Data source

The School Leavers Survey (SLS), a joint initiative by Statistics Canada and Human Resources and Labour Canada, was conducted from April to June of 1991. The purpose of the survey was to determine a school leaver rate and obtain data on the factors associated with early withdrawal from formal education.

The target population consisted of people aged 18 to 20 as of April 1, 1991, who were living in Canada. Residents of the Yukon and the Northwest Territories were excluded, as were institutional residents (those living in a shelter, transition home, prison, etc.). Using the Family Allowance file as the sampling frame, a stratified random sample of 18,000 was selected. A total of 10,782 individuals were traced (60% contact rate), and 9,460 were interviewed (88% response rate). A computer-assisted telephone interview obtained data on demographic, social and economic characteristics, school experiences, and post-school outcomes. These respondents represented 1,136,000 individuals: 184,000 leavers, 241,000 continuers (still in high school), and 711,000 high school graduates.

The leavers and graduates compared in this article are those who took no further education or training after high school, as well as a small number who had taken some type of instruction (although they did not know whether it was a course or a program) but were not in school at the time of the interview. Leavers who had completed additional education or training were excluded; therefore, the group of leavers analyzed here is somewhat smaller than the estimate of all leavers (152,000 versus 184,000). Similarly, the group of graduates examined in this article is much smaller than the total number of high school graduates, most of whom had gone on to postsecondary studies (189,000 versus 711,000).

## Why did they leave?

Students leave school for a variety of reasons that include financial considerations, personal problems, and boredom with the classroom routine. However, the most frequently reported reasons for early departure were work-related. Overall, 22% of leavers said that they preferred work to school, and another 8% declared that they left for financial reasons or because they had to work.

Male leavers were more likely than their female counterparts to give work-related reasons for quitting: 38% versus 16%. For both men and women, boredom also figured prominently (19% and 22%, respectively). Family and personal reasons were mentioned more often by women than by men. In fact, among female leavers, pregnancy/marriage ranked among the top five reasons for quitting school before graduation.

On the other hand, among women, graduates spent more time than leavers on the job. Almost half of female graduates (49%) worked 40 or more hours a week, compared with 42% of female leavers. Few women, whether leavers or graduates, worked 50 or more hours a week.

There was little difference between the proportions of leavers and graduates working less than 30 hours a week. Among those who were employed, just over 10% of the men and around 25% of the women reported weekly hours in this range. The leading reasons cited for working short hours were that the job was part time or that they could not get more hours.

## Low incomes

Both leavers and graduates had very modest incomes, which undoubtedly reflect their low level of education and entry-level jobs.

In the 12 months before the survey, 51% of both male leavers and graduates had a pre-tax personal income of \$10,000 or less. A small minority of both groups (12% of leavers and 11% of graduates) reported more than \$20,000.



The income situation of young women was even less favourable than that of men: 66% of female graduates and 60% of female leavers had personal incomes of \$10,000 or less. A negligible proportion of both groups reported \$20,000 or more.

The major difference between leavers' and graduates' income was the sources from which it came. Leavers tended to rely more than graduates on government transfer payments and other types of social assistance.<sup>4</sup>

Not unexpectedly, considering their high unemployment, leavers were more likely than graduates to receive unemployment insurance (28% versus 23%). As well, the percentage of leavers with social assistance or welfare payments (18%) was more than twice the figure for graduates (8%).

The discrepancy in transfer payments was particularly pronounced among women (Chart B). For example, 30% of female leavers, but just 10% of female graduates, received social assistance. These figures are not surprising in light of the sizeable proportion of female leavers who were not in the labour force.

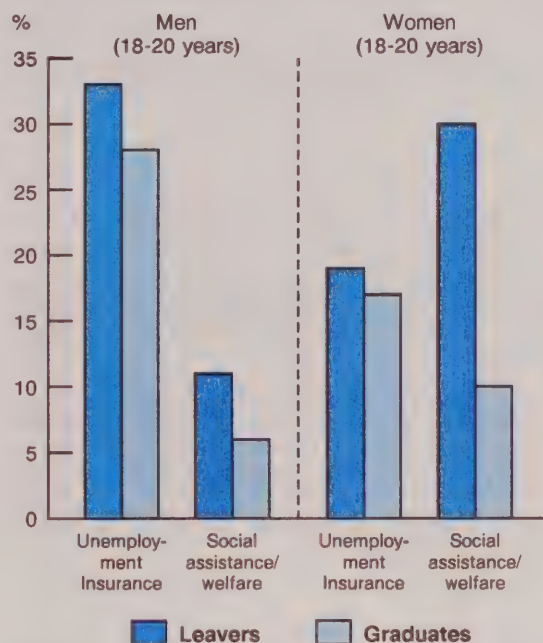
## Future training

Most leavers and high school graduates seemed to acknowledge the need for additional training to enhance their labour market prospects. In fact, 95% of leavers and 97% of graduates either planned to take further training or were interested in acquiring new skills.

However, leavers were less likely than graduates to have specific, long-term occupational goals. For example, when asked what skill or type of training they wanted, 24% of leavers, but just 13% of graduates, indicated "no specialization" or "don't know." Similarly, 20% of leavers did not know where they would get the type of training or education that they wished to pursue, compared with 9% of graduates.

Chart B

**A larger proportion of high school leavers than graduates received government transfer payments.**



Source: 1991 School Leavers Survey

## Summary

A high school diploma does make some difference for young people entering the labour market. Graduates are more likely than leavers to be working and less likely to receive public assistance.

Nonetheless, a high school diploma alone is clearly not enough. While graduates fared somewhat better than leavers, a large proportion of them were unemployed, and their incomes were low. For graduates, however, additional education is a more realistic possibility than it is for leavers, as most postsecondary programs require high school graduation for entry.

The timing of the SLS, however, may have had an effect on the labour market picture of both leavers and graduates. The survey was conducted in the midst of a recession that was particularly hard on young

people. Thus, the data on the employment and income of both groups may considerably underestimate young people's prospects and the impact of education on long-term employment outcomes. □

## Notes

<sup>1</sup> This article is based on a chapter in *Leaving School: Results from a national survey comparing school leavers and high school graduates 18 to 20 years of age*. (Gilbert et al, 1993 ).

<sup>2</sup> The terms high school "leaver," "non-completer," and "dropout" are often used interchangeably to indicate students who have left school without receiving a diploma or certificate. Because "dropout" has a pejorative and stigmatizing connotation, the more neutral designation, high school "leaver," is used to describe SLS findings.

<sup>3</sup> These "pure" graduates and leavers represent only 30% of the total population surveyed. About one-fifth of all 18 to 20 year-olds were still enrolled in high school, while the majority of those who had graduated had gone on to postsecondary education and a few had even completed their programs. As well, some of the leavers had entered postsecondary education or had received additional training.

<sup>4</sup> Social assistance/welfare refers to money provided by provincial or municipal authorities to those who qualify, based on a needs test.

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# A recession for whom?

Patrick Adams and Adib Farhat

**R**ecession! Sales are falling, profits are down. Time to slash the payroll? Well, that depends. While employment in the goods-producing industries tends to fluctuate closely with the overall economy, service industries appear to be less affected. But, splitting the service industries into commercial and non-commercial components shows that the apparent lack of cyclical sensitivity stems from the more stable non-commercial services.

The response of industries to fluctuating economic conditions is reflected by changes in their total labour costs. Labour costs in turn can be approximated by total payrolls.<sup>1</sup> Payrolls also provide an avenue to study changes in employment and earnings, since they are made up of these two components.

Patterns of changes in the payrolls of commercial and non-commercial services during the recent recession raise a number of questions. Why did the non-commercial services not suffer a downturn? Do changes in earnings in these industries reflect economic conditions at all?

## Goods-producing industries

Prior to the onset of the recent recession, which began officially in the second quarter

of 1990, payrolls in the goods-producing industries plunged, whereas in the service-producing industries payroll growth continued, but at a slower rate. Between the third quarter of 1989 and the third quarter of 1991, the annual rate of change in payrolls in the goods-producing industries fell from 9.4%

## Employment and weekly payrolls, 1992 (annual averages)\*

	Employment	Payrolls
	'000	\$millions
<b>Goods industries</b>	<b>2,327</b>	<b>1,590.9</b>
Forestry	55	38.6
Mining	129	120.2
Construction	419	267.8
Manufacturing	1,587	1,040.9
Utilities	137	123.3
<b>Service industries</b>	<b>7,626</b>	<b>3,880.9</b>
Commercial	4,870	2,205.7
Transportation, storage and communication	679	452.4
Trade	1,866	749.9
Finance, insurance and real estate	656	389.3
Business services	491	287.0
Accommodation, food and beverages	670	142.4
Miscellaneous services**	508	184.7
Non-commercial	2,756	1,675.2
Health and welfare	1,129	549.3
Education services	911	608.4
Public administration	716	517.5

Source: Survey of Employment, Payrolls and Hours

\* Payrolls include total wages and salaries.

\*\* Includes amusement and recreational services, personal and household services, membership organization industries and other services.

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Chart A

**Payrolls in the goods industries declined sharply during the recent recession.**



Source: Survey of Employment, Payrolls and Hours

to -7.9%, and then moved to a rate of -1.2% by the end of 1992. Over the same period, payroll growth in the service-producing industries declined from 10.0% to 0.7%, before reaching 2.4% by the end of 1992 (Chart A).

Within the goods-producing sector, some industries tend to respond more quickly than others to economic cycles. The primary industries of mining and forestry are often the last to decline in a recession, given that raw materials prices tend to rise late in an economic expansion (Bloskie, 1991).

## Service industries

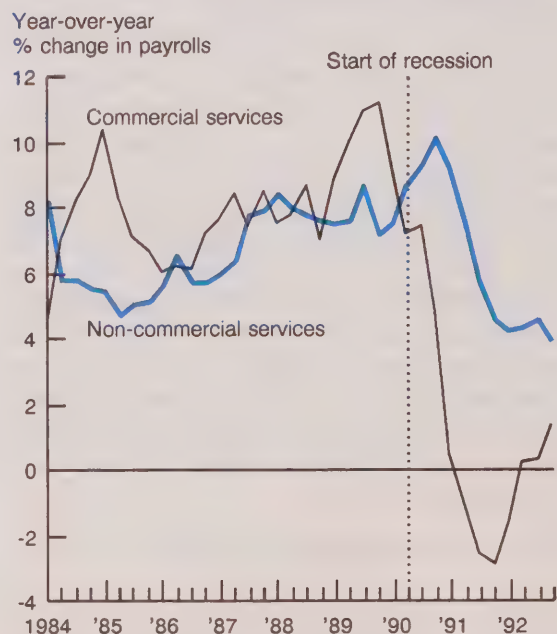
The lack of cyclical sensitivity in the service-producing industries largely reflects the composition of the group. The non-commercial

services give this sector its characteristic smoothness. Commercial services are almost as cyclically sensitive as the goods-producing industries.

Non-commercial services show minimal sensitivity to economic fluctuations and even some counter-cyclical movements. From the third quarter of 1989 to the fourth quarter of 1992, payroll growth in non-commercial services accelerated to a high of 10.1% in the fourth quarter of 1990 before falling to 3.9% by the end of 1992. The less cyclical movements of non-commercial services offset the cyclical movements of commercial services, resulting in a service sector that appears less affected by economic fluctuations (Chart B).

Chart B

**The recession had less effect on non-commercial payrolls. \***



Source: Survey of Employment, Payrolls and Hours

\* See Table for the composition of commercial and non-commercial services.

## Non-commercial services

Why do the non-commercial services not contract in a recession? The most obvious reason is that the demand for their output remains constant or even increases in a recession. Education and related services, for example, react to demographic forces but scarcely notice economic changes. Because of counter-cyclical stabilization policies that link unemployment and government-sponsored social programs, social services actually grow more rapidly during a recession. Then, as the economy recovers, growth in the non-commercial services would be expected to slow.

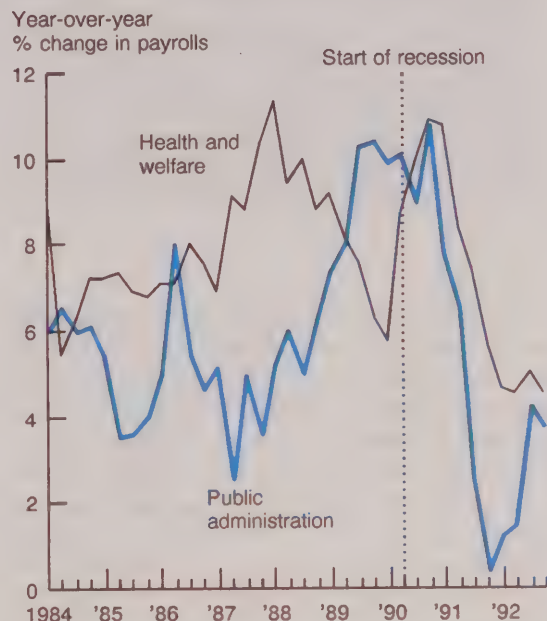
Payroll growth patterns in non-commercial services generally conform to the above expectations. Total payrolls in health and welfare services, for example, exhibited modest growth from the first quarter of 1990, reflecting the onset of the most recent recession. Accounting for 40% of the employment in non-commercial services, the health and welfare industry contributed substantially to the payroll growth in the non-commercial services between 1990 to 1992 (Chart C).

Payrolls in public administration showed a general upward trend from the second quarter of 1987 to the fourth quarter of 1990. As the recession deepened, payrolls in public administration (federal and provincial) were more affected than payrolls in health and welfare.

Although payrolls in some non-commercial services grew more rapidly during the recession, the question remains whether this resulted from increased employment or higher average weekly earnings. Using shift-share analysis, the net change in payrolls between two or more periods was decomposed into its earnings and employment components (see *Shift-share technique*). The results show that the bulk (74%) of the

Chart C

**Payrolls in public administration were affected more than those in health and welfare.**



Source: Survey of Employment, Payrolls and Hours

payroll growth in non-commercial services between 1990 and 1991 came from increased average weekly earnings. The contribution of employment to the net change in payrolls, on the other hand, was more in line with the business cycle.

## Commercial services

The commercial services responded more to the recession than did the non-commercial services. Although the goods-producing industries are generally the hardest hit in a recession, commercial services are also affected by changes in consumer demand.

### Shift-share technique

The shift-share technique decomposes net change in total payrolls into three components:

$$\text{NET CHANGE} = \text{EMPLOYMENT CONTRIBUTION} + \text{AWE CONTRIBUTION} + \text{INTERACTION TERM}$$

$$Y = [(E_2 - E_1) * AWE_1] + [(AWE_2 - AWE_1) * E_1] + [(E_2 - E_1) * (AWE_2 - AWE_1)]$$

Where

Y represents the net change in total payrolls.

$E_1$  is employment in period 1.

$E_2$  is employment in period 2.

$AWE_1$  is average weekly earnings in period 1.

$AWE_2$  is average weekly earnings in period 2.

Employment in the goods-producing industries is the most highly cyclical (Picot and Baldwin, 1990). This stems at least partially from the relatively higher rates of temporary layoff that occur in these industries during a recession. Commercial services tend to be less cyclical. Since services are consumed at the point of production and not accumulated in inventories, production is not cut back as much or as abruptly as in the goods-producing industries. However, the recent increase in the contracting out of services by manufacturers and other goods producers, has increased the sensitivity of the commercial services to economic cycles (Bloskie, 1991).

Some commercial services are more affected than others by economic fluctuations. Industries that depend heavily on consumer demand, such as trade, and accommodation, food and beverage services, showed large declines with the onset of the 1990-92 recession. Transportation, storage and communication was one of the most stable of the commercial service groups. Although payroll growth dipped slightly in 1991, it never fell below zero, perhaps because industries such as telecommu-

nications provide essential services to all sectors of the economy.

## Conclusion

Service-producing industries have traditionally been viewed as rather insensitive to economic cycles, but this apparent stability comes from the less cyclical movements of the non-commercial services that tend to moderate the cyclical movements of the commercial services. The insulated nature of non-commercial services stems in part from the kinds of services (largely public) they provide. Whether the recent wage policies of the federal and provincial governments have an effect on this trend may be reflected in future payrolls data. The analysis of payrolls could also help answer many questions, such as: Do non-commercial services to some extent take up the employment slack during a recession? Is the continued employment growth in commercial and non-commercial services matched by output growth? Future studies could also determine the extent to which patterns in the growth of payrolls are echoed across provinces.



## Note

<sup>1</sup> Payrolls including paid absences account for about 90% of labour cost.

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## Perspectives on labour and income

*The quarterly for labour market information*

# An interview with Laurence E. Coward

Doreen Duchesne and Hubert Frenken

**L** Laurence E. Coward is a Director Emeritus with William M. Mercer Limited, an employee benefits consulting firm, in Toronto. Born in London, England in 1914, he came to Canada in 1949 to join the company as its first actuary. As Vice-President since 1955, he has had an illustrious career serving businesses, governments and Royal commissions as a pensions and benefits consultant. His professional offices have included being the first Chairperson of the Ontario Pension Commission, President of the Canadian Institute of Actuaries, and President of the Canadian Pension Conference. Mr. Coward is the author of many articles in actuarial and business publications, and his Mercer handbook of Canadian pension and welfare plans, now in its 10th edition, is regarded by many as the most comprehensive study on Canada's pensions and employee benefits system.



Laurence Coward on the slopes at age 79

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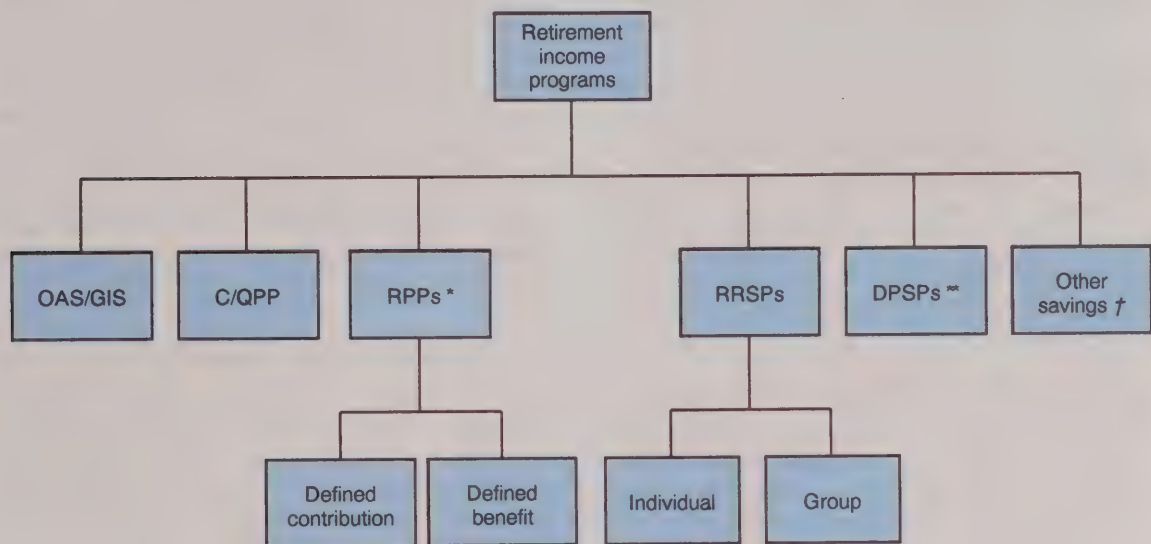
**Q.** *Canada's pension system is a combination of public plans and private arrangements that have evolved over time. What are some of the most important changes you have seen implemented in the last 30 years?*

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*Doreen Duchesne and Hubert Frenken are both with the Labour and Household Surveys Analysis Division. Ms. Duchesne can be reached at (613) 951-6893 and Mr. Frenken at (613) 951-7569.*

**A.** About 30 years ago, the federal government wanted to bring in a national contributory wage-related pension plan. But it took a few years to get this organized, over opposition from some of the provinces, and the Canada Pension Plan came into effect on the 1st of January, 1966.<sup>1</sup> Also, the Old Age Security, which had been set at \$40.00 a month at age 70, became \$75.00 a month, payable at 65. At the same time, we got the Guaranteed Income Supplement, or GIS. Since then, there has been continued liberalization of such Acts; for example, Canada

## Canada's retirement income system



\* Employer-sponsored registered pension plans

\*\* Deferred profit sharing plans

† Includes home equity, investments and rental property.

Pension Plan benefits can currently be taken at age 60 and the OAS benefit has gone up to \$385 a month. The other big change was the introduction of the Pension Benefits Act of Ontario in January 1965, soon followed by similar Acts in other provinces.

More recently, there's been a clawback of Old Age Security through the tax system.<sup>2</sup> Even so, the security for old people now is vastly greater than it was before. They no longer have to depend on their children to support them in their old age; Canadians now rely on the government or their employer.

**Q.** Wasn't the GIS intended to be a temporary measure?

**A.** It was brought in as a transitional measure, until the Canada Pension Plan matured. But when CPP benefits showed signs of levelling off, the government found another use for it. It became a general supplement, to maintain a minimum income for everyone, which it's done quite effectively. The Old Age Security plus GIS provides more than \$10,000 a year for a single person. In Ontario, there's a provincial supplement of about \$1,000. Other provinces have other supplements. So a single person over 65 who has resided for a certain number of years in Ontario can get about \$11,000 a year. And a married couple can't get less than \$18,000 a year, even if they have no other income, including no Canada Pension Plan benefits.



That's a fairly high basic level in regard to minimum wages. Especially if you recollect that a great many goods and services are available to seniors at substantially lower prices. Income tax is reduced, and seniors no longer have to contribute to the Canada Pension Plan or pay union dues. Public transportation is available at a lower rate; movies are half price. Until recently, I was able to ski for nothing at many of the best resorts. Now they're all charging something, but it's still at a reduced price. Our minimum standard for pensioners is a vast improvement over what it was a few years ago.

*Q. Despite legislated annual increases in contribution rates, the CPP is regarded by many as having an uncertain future. The federal Deputy Minister of Finance has warned that the program will have to be changed for it to remain sustainable without exacting unwieldy contribution requirements. What advice would you give to working Canadians who may face curtailed C/QPP benefits in the future?*

**A.** The latest Canada Pension Plan report does not alarm me particularly. The pay-as-you-go rates projected to 2025 are only marginally higher than they were in the 1988 report – about 0.2% higher, reaching 12.4% that year. As for the working Canadian's reaction to that, I'm reminded of what my old aunt used to say, "What can't be cured, must be endured." Obviously workers should, as far as they can, contribute more to registered retirement savings plans and to registered pension plans. They can postpone their retirement a few years longer – if they can manage to retain their job. We're going to have to tolerate some modification of the Canada Pension Plan to reduce its costs a bit. I think there will be great pressure to raise the age of commencement of benefits, after a transition period. The United States has already done it, and it is perhaps the most painless way of reducing costs.

In *The Prince*, Machiavelli said that the public could stand any burden or hardship so long as it was imposed gradually. We are subject to high rates of taxation and contributions for benefits, far beyond what would possibly have been acceptable 30 years ago. The price of our security may go higher still. But since it comes in slowly, we grin and bear it.

*Q. Can you expand on the possibility of postponing the eligibility for full CPP pension past 65?*

**A.** That's very likely going to happen. In the United States, the earliest age at which one can take benefits is 62. We have an early benefit at 60 and a full benefit at 65. It doesn't seem unreasonable for 62 to be the minimum age and 67 the normal age for the full standard pension. Of course, the change would have to be brought in gradually. In the United States, retirement at 67 is slated for the year 2027.

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**The security for old people now is vastly greater than it was before. They no longer have to depend on their children to support them in their old age ... [and] a great many goods and services are available to seniors at substantially lower prices.**

---

*Q. The CPP combined employer/employee contribution rate is currently legislated to reach 10.1% by 2016, more than twice today's rate and nearly three times the rate in place before 1987. How do you think employers may respond to these increasing premiums?*

## Definitions

The **Canada and Quebec Pension Plan (C/QPP)** is an earnings-related retirement program introduced in 1966. It provides minimum levels of retirement, disability and survivors' benefits for Canada's workforce. The CPP covers workers outside Quebec and is administered by the government of Canada, while the QPP covers Quebec workers and is administered by the government of that province.

Annual contributions are required on earnings above a basic exemption amount and below the year's maximum pensionable earnings or YMPE. In 1993, no contributions were required on earnings below \$3,300 or above \$33,400. For further information on C/QPP contributory earnings and the increasing contribution rate, see Frenken (1993).

**Old Age Security (OAS)** is a universal benefit unrelated to earnings, paid monthly by the government of Canada to all Canadians aged 65 and over meeting minimum residency standards.

**Guaranteed Income Supplement (GIS)** payments are provided to OAS recipients with little or no other income. Eligibility and amount are determined by the amount of other income.

**Pension benefits standards legislation** protects the rights of members of employer-sponsored registered pension plans (RPPs) and sets minimum standards in such areas as vesting and funding. First introduced in Ontario in 1965, it has since been enacted, with some variations, by all provinces and the federal government.

**Vesting** refers to the right of RPP members who terminate employment, to benefits from their pension plans. These benefits may be **locked in**, in which case the employee cannot receive lump sum refunds, but must receive benefits in the form of a pension at retirement. Pension benefits standards legislation initially mandated vesting and locking in at age 45 and ten years of service, but in most provinces today both are required after two years of service or plan participation.

**Funding** a pension plan is the process of setting aside money on a systematic basis to pay for retirement benefits. **Pay-as-you-go** funding entails the paying of benefits as they fall due. It is not funding in reality, since no fund is accumulated.

**Solvency** refers to a test required under pension benefits standards legislation that ensures the adequate funding of a pension plan. It is particularly applicable to defined benefit plans. Any deficits that occur during the normal operation of such plans (**experience deficiencies**) must be liquidated by the employer through additional contributions.

A **defined benefit plan** is a pension plan that specifies the benefits members will receive at retirement or termination from the plan. It does not define the employer's contributions. Instead, employer contributions are determined by calculating the costs of providing these benefits.

A **defined contribution or money purchase plan** is a plan that specifies the employer's contributions (and employee's, if any). Members' benefits consist of accumulated contributions plus interest earned at the time of retirement or termination from the plan.

**Registered retirement savings plans (RRSPs)** are arrangements under which persons with earned income may save on a tax-assisted basis. They may be individual plans or group arrangements.

**Registered retirement income funds (RRIFs)** are one of three methods used to obtain RRSP benefits. The others are cash withdrawals and conversions to annuities. When cashing in an RRSP or converting it to an annuity, the assets have to be liquidated, while an RRIF can retain the same investments as the RRSP. Although it requires minimum annual disbursements, it has much greater payment flexibility than an annuity.

The **Employee Retirement Income Security Act of 1974 (ERISA)**, modeled after the Canadian pension benefits standards legislation, set out to protect the rights of pension plan members in the United States. It also established an insurance program to guarantee workers receipt of pension benefits should their defined benefit plan terminate.

**Individual retirement accounts (IRAs)** are retirement savings programs for individuals in the United States, very similar to Canadian RRSPs, but with much lower contribution limits and greater restrictions on withdrawals.

**Keogh plans** are programs that allow self-employed individuals in the United States to make tax-deductible contributions to a qualified pension or profit sharing plan, but with certain restrictions and limitations.



**A.** Employers will obviously try to pass on the cost to employees if they can. They've got to keep total compensation down to remain competitive. So, if they have to pay more for pensions, they're going to try and find some other benefit that can be reduced, or there'll be pressure for smaller negotiated pay increases. They may even employ fewer workers. I don't know if employers will cancel their registered pension plans because of the extra costs. I think probably not, although there will be a greater tendency to go to money purchase plans or group RRSPs because this makes the costs definite.<sup>3</sup>

**Q.** *What can you tell us about the development of employer-sponsored pension plans?*

**A.** The old idea was for pensions to be granted to people who were physically unable to work. For example, many years ago, I met the president of a large company who said, "We don't have a pension problem here. We offer work for every able-bodied man who is ready to work. If he's been with us for some time and then can't do the job, the directors award him a pension, which might be \$50.00 a month. Besides, our pensioners don't live very long, only four years on average."

It wasn't until unions began to negotiate pensions that employers began to formalize their pension arrangements. A U.S. court case in 1952 established a union's right to negotiate for pensioners. Previously, employers had argued that pensioners were no longer union members, so unions had nothing to do with the issue. But the unions claimed to be negotiating future benefits for present members. The employers gave in and then, a little later, agreed to increases for pensioners even though they were no longer union members. And from 1965 onwards, more and more regulatory legislation required employers to formalize their pension

plans. Since then, all provincial governments have passed pension legislation.

It would be wonderful if there were uniformity and less complexity in pension legislation across the country. I was on the Ontario Pension Commission for about 15 years. We always believed in keeping things reasonably simple. The objectives were to ensure reasonable benefits for terminating employees and a reasonable solvency of the plan. Without fussing a lot over minute details, we concentrated on those things, and I think the Act worked very well for a long time.

**Q.** *In recent years, participation in employer-sponsored pension plans has not kept pace with labour force growth. At present, only about 45% of employed paid workers are covered, down from 49% ten years ago. Why is this happening and do you see declining coverage rates as a serious concern?*

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**There will be great pressure to raise the age of commencement of [CPP] benefits, after a transition period.**

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**A.** Workers are more mobile. Every time they change their job there's a waiting period before getting into a plan. We're also seeing an increase in part-time and casual workers, especially women. Part-time workers who don't work a minimum number of annual hours may be excluded from the pension plan. Another reason is that employers have become a little less paternalistic; to some degree, they are responding to the employees who are demanding more flexibility because of varying family situations.



Also, there has been a move from pension plans to group registered retirement savings plans. The CLHIA report said that in 1992 they had 657,000 group RRSP members.<sup>4</sup> That's an appreciable number, because I don't think there were any group RRSP plans 10 years ago. It would be very interesting if Statistics Canada found out how many people are in these plans, and how much money is going in.

**Q.** *Are today's employer-sponsored pension plans generally solvent? Is there a need for such safeguards as the Ontario Guarantee Fund?*

**A.** It depends on what you mean by solvency. A well-known actuary once said that a plan is solvent if you know what your requirements are going to be and you know where the money is coming from when you need it. In Ontario, most plans are in good shape because they have to comply with the law. Long-term funding is pretty strict now, and deficits must be paid up rapidly.<sup>5</sup>

We still need the Pension Benefits Guarantee Fund. It was set up after the United States guarantee system, and we learned from their mistakes. They guaranteed the benefits of any pension plan that was wound up. A number of companies wound up their pension plan and started another one the next day – threw all the unfunded liabilities on the Pension Guarantee Fund, and walked away. But in Ontario, the Fund recovers its payments from the employer, unless the employer is actually insolvent.

I think there are enough safeguards built into the Ontario Pension Benefits Guarantee Fund, although it did run up a large deficit, mainly because of the bankruptcy of a large agricultural implements manufacturer. Consequently, they've raised the assessments considerably.

**Q.** *Employer-sponsored pension plans differ widely in terms of employee contributions and*

*benefits. Given the choice of participating in a generous plan requiring high personal contributions or belonging to a non-contributory plan with low benefits, what, in your opinion, is the best option for an employee?*

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**It would be wonderful if there were uniformity and less complexity in pension legislation across the country.**

---

**A.** In the old days, I would have said join the high contribution, high benefit pension plan and then stop worrying about your retirement. But now, flexibility is demanded more and more, and a lot of people would prefer to have a non-contributory basic benefit from the employer and more room to put their own money aside. They may put it in registered retirement savings or they may buy a house. Purchasing a house is one of the best provisions for retirement you can possibly make. If you reach retirement and don't have much income, you can take out a reverse mortgage, or you can sell the house, buy an annuity and move into an apartment. So, house purchase, in my view, is for many people as good a retirement provision as an RRSP.

Flexibility is fine, if you've got a certain amount of self-discipline. I've never urged young people below the age of 35 to save hard for their retirement. I think it's just too far ahead. I saw a cartoon once of a severe old businessman behind a big desk facing this young chap applying for his first job. The businessman says, "Young man, when I was your age, all I thought about was hockey and girls, not whether there was an equitable pension plan." I subscribe to that view. Life is too important to start worrying 30 or 40 years ahead of time about what you're going to be living on then.

**Q.** *In past years, the option of receiving lump-sum refunds of contributions on termination of employment and inadequate vesting and locking in of accrued benefits resulted in many workers reaching retirement age with little or no pension accruals, despite having participated in a number of pension plans throughout their careers. Has that situation improved in recent years?*

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**House purchase, in my view, is for many people as good a retirement provision as an RRSP.**

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**A.** The situation has improved because the legislation requires earlier vesting and locking in. In 1965, when the Pension Benefits Act started, the requirement for vesting was 10 years of service and age 45. In the 1980s, the vesting rule was amended to 2 or 5 years of participation in a plan, or of service – it varies by province. So, there's been a very considerable increase in the amount of money that is preserved when employees terminate their work. However, the mobile employee ends up with far less than someone with long service in one company.

**Q.** *There has been a trend towards earlier and earlier retirement in Canada in the last three decades (Frenken, 1991).<sup>6</sup> Considering improved health and increased longevity, can employers afford to permit workers to leave the labour force in their late 50s or early 60s?*

**A.** My answer is no. I have no objection to early retirement if the pension is suitably reduced, but the trouble is that people want the full pension, or nearly full, at the age of 55 or thereabouts. I've seen cases where early retirement is not really retirement at all; it's people retiring on pension and promptly taking another job. Their total income may

even be greater than if they had stayed where they were. I do not blame the employee, but this is a misuse of pension funds.

We are also quite likely to be short of skilled workers once the baby boomers have gone through. So, I feel that the present trend to early retirement is a great mistake. I don't think we can possibly afford to provide unreduced early retirement in normal circumstances. There are circumstances when you should allow it – where the firm is being downsized and the alternative is to fire people. But, in general, it's extremely costly and socially unnecessary, especially since people are not only living longer but they are living more active lives.

**Q.** *Some employers have converted their defined benefit pension plans to money purchase arrangements or group RRSPs. Why has this been happening and how do you think this may affect participating employees?*

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**I've never urged young people below the age of 35 to save hard for their retirement. I think it's just too far ahead.**

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**A.** Well, the purported reasons were excessive regulation and the high cost of compliance with provincial requirements, the great difficulty of communicating what all this was about to employees, and the cost uncertainty. In defined benefit plans, the costs are uncertain, and they became even more uncertain when the government said, "You've got to provide vesting after two years instead of ten." Now that was a very real reason. But, the other reason, which I think was just as powerful, was that we ran into a period of very high interest rates. The funds were earning 14%-15% and people saw that they could buy good bonds for up to 18%. A small amount of arithmetic shows that you're



far better off taking your contributions and having them in money purchase. So there was a rush to change pension plans from defined benefit to defined contribution. A great many small plans were so changed and a sprinkling of big ones.

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**I feel that the present trend to early retirement is a great mistake. I don't think we can possibly afford to provide un-reduced early retirement in normal circumstances.**

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Now that interest rates have dropped very considerably, the trend to money purchase seems to have slowed. Currently, fewer than 10% of the members of pension plans are in defined contribution plans, including profit-sharing. So it's still not the predominant type by a long way.

What is interesting is that I've heard of cases where the plans have been switched back from money purchase to defined benefit. In one company, some senior officers were very unhappy when they got statements showing the pensions they would get at retirement. They had high salaries, but the money purchase contributions they had made many years ago, which were the ones that had accumulated most of the interest, were based on low earnings. So the plan was changed to defined benefit. Nevertheless, I don't think employers will generally switch back to defined benefit plans.

**Q.** *Although the prime objective of RRSP tax-assisted savings is to provide retirement income, large amounts are cashed in each year by persons under 65. In fact, in 1991, \$2.1 billion was paid to persons under 55 years of age, virtually all in the form of cash withdrawals. What is your reaction to people cashing in RRSPs long before retirement age?*

**A.** The original purpose of RRSPs was to provide pensions only – the only way of getting cash out was to die or cancel the contract. But since its institution in 1957, it's evolved. I think savings are to be encouraged, whatever the purpose. People save for retirement, for emergencies, for house purchase. They save to leave an estate, or in case they become sick or unemployed, or to put the kids through university. Nearly all of these activities, at one place or another, have been encouraged by government through some form of tax assistance. I'm quite comfortable with the liberalization of RRSPs to allow people to pull out their money before they're 65. I have some faith in the individual's ability to judge his own needs. I agree there is a temptation to take it out and spend it without too much foresight for the future, but it seems to me there are usually good reasons why people pull out their money.

For example, many women have a baby and take a year off work. They have no income during that year so they withdraw their RRSP with virtually no tax to help support themselves. The money is needed at that time. They think that it is more important to have comfortable provisions for the new baby than to have an extra \$100 a month when they're 65. So, I do not feel that this is something that the government should attempt to stop or restrict.

**Q.** *Statistics Canada has collected extensive data to help measure the economic and social impact of the growth in dual-earner couples. How do you think this trend may affect retirement income?*

**A.** In the good old days, one pension provided for two people. But, if there are two incomes and you want to maintain the same standard of living, you need both pensions. There is an integration of benefits under the Canada Pension Plan if one spouse dies,<sup>7</sup> but there is no integration of Old Age Security or the Canada Pension Plan if both spouses are still alive. Regarding survivor benefits, the



proposal to replace lifetime widows' pensions with temporary resettlement benefits<sup>8</sup> is a good idea. I see husbands and wives becoming more independent of each other. Women are more farsighted today. They worry about their future. The modern trend is for women to have their own personal RRSP and not rely on handouts from a husband.<sup>9</sup>

*Q. Considering the possible implementation of the North American Free Trade Agreement and the prospect of even greater economic integration with the United States than at present, do you think our pension system may have some impact on U.S. pension schemes and, more importantly, could our system be affected by theirs?*

A. Infectious diseases very easily cross the Canada-U.S. border. We caught from the U.S. the idea of a national contributory wage-related pension plan. Later on, we caught the disease of a capital gains tax. They caught from us the pension benefits standards legislation, ERISA, and we are now considerably influencing the health-care debate in the United States. Another example is our RRSPs, which we had going before the United States got their individual pension saving arrangements – IRA and Keogh plans. So there is no doubt that the two countries influence each other.

U.S. legislation has raised the retirement age for social security benefits to age 67 for the full pension, and the early retirement age to 62. It will be in full effect by the year 2027. I think that is very likely to come to Canada because of the ever-growing costs of the Canada Pension Plan. Another thing the U.S. has done is impose an income test on their social security pensions until the age of 70. We have an income test from 60 to 65, but it's a pretty weak one because if you have one year of low income you can start your CPP and it doesn't matter what you earn for the next three or four years, you still keep it.

*Q. Where do you see Canada's retirement income programs headed in the next 20 years?*

A. I think that the Canada Pension Plan will be amended to provide for a full pension at age 67 or 68 instead of 65. We are quite likely to see contributions based on all earnings up to the YMPE instead of earnings between the basic exemption and the YMPE. That would immediately add 10% to the income of the Canada Pension Plan. There have been proposals that employers should pay on all earnings or payrolls even though the benefits to the individuals are only on earnings up to the YMPE. I don't support that idea.

I think we will see some sort of change in spousal benefits because spouses' and survivors' pensions have already been criticized. As women become more independent of men, it's unnecessary to assume that when the husband dies there has got to be a widow who has to be provided for, for the rest of her life.

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**The modern trend is for women to have their own personal RRSP and not rely on handouts from a husband.**

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I believe we will see a great growth in registered retirement savings plans, partly because employers will find them more flexible than pension plans; it is also highly likely that there will be regulation of RRSPs beyond what we have now, in order to put in some safety measures to protect employees. I believe we are going to see a big growth of non-registered pension arrangements or employee supplementary pension plans because of the current limit on pensions that can be provided in a registered plan, which comes into effect for an employee earning about \$80,000. There are bound to be more and

more employees earning well above that limit who will need additional pensions.

**Q.** *How about the Old Age Security program?*

**A.** I don't know that I see any very great change. You've got the clawback, which should be preventing things from getting too much out of hand. The Old Age Security program was providing a lot more pension than the Canada/Quebec Pension Plan until recently, but it'll soon be the other way around. So Old Age Security is gradually becoming of secondary importance.<sup>10</sup>

**Q.** *Statistics Canada is the main source of pension and retirement income data. Are you satisfied with what's available or are there gaps that should be addressed despite current fiscal restraints?*

**A.** By and large, I am satisfied. I would like data to come out more promptly. It would be useful if we could get more information about RRSPs on the types of investments made – the amounts paid out – how much is used to

buy annuities – how much is withdrawn in cash – and how much goes into RRIFs.

I had some frustration a while ago trying to get reasonable estimates of the amounts in deferred profit-sharing plans. I'd also like to know to what extent the RRSP home purchase plan is being used. But above all, the figures should come out sooner, not several years out of date.

**Q.** *You personally are still an active participant in the labour force, despite having attained some years ago what many would consider an age of relaxation and rest. Would you like to comment on this?*

**A.** Well, my first comment is that I don't play golf so I have more time for other things. I still work at the office from time to time. I like to meet old friends and do a certain amount of voluntary work. I think everyone should find some useful activity. I know a great many retirees who volunteer to work in hospitals, community centres, cultural organizations, and so forth.<sup>11</sup> To settle down in a deck chair or play golf for the rest of my life does not appeal to me.

## Notes

<sup>1</sup> The companion Quebec Pension Plan (QPP) came into effect on that date as well. All references to the CPP in this article can also be applied to the QPP (see *Definitions*).

<sup>2</sup> Taxfilers with income in excess of \$53,215 (including OAS benefits) in 1992 had to repay part or all of their OAS when filing their tax returns.

<sup>3</sup> For information on the possible impact of C/QPP contribution increases on RPPs, see Frenken (1993).

<sup>4</sup> The Canadian Life and Health Insurance Association Inc. conducts an annual survey of all its member companies, requesting information on group retirement plans, RRSPs, RRIFs and annuities (CLHIA, 1993). The 657,000 figure reflects some double counting since some group RRSPs are funded through contracts with more than one insurance company.

<sup>5</sup> Employers with experience deficiencies (see *Definitions*) in their defined benefit pension plans must

make additional contributions to liquidate these deficiencies within five years.

<sup>6</sup> Results from Statistics Canada's General Social Survey show that in 1989 just over one in three Canadians supported the idea of mandatory retirement. Yet, 43% wanted to retire before age 65 (Lowe, 1991).

<sup>7</sup> A CPP pension payable to a surviving spouse aged 65 or over is equal to 60% of the retirement pension which would have been payable to the deceased contributor. A pension payable to a spouse under 65 is composed of a flat-rated amount plus 37.5% of the actual or imputed retirement pension of the deceased. A surviving spouse may receive both the spouse's pension and a self-earned retirement benefit. However, the combined benefit may not exceed the maximum retirement pension payable for the year the contributor retires.



## Notes – concluded

<sup>8</sup> It has been proposed to change small lifetime spousal pensions to much larger temporary benefits that would allow survivors time to adapt to the new situation or find employment.

<sup>9</sup> In 1981, 31% of RRSP contributors were women; by 1991, that proportion had increased to 42% (Frenken and Maser, 1993).

<sup>10</sup> The income at which the clawback begins is not fully indexed. So, the clawback will apply to more and more people in the future and the OAS will, if this continues long enough, become of significance only to low income people.

<sup>11</sup> According to the Survey of Volunteer Activity, 582,000 persons aged 65 and over (22% of the population in this age group) volunteered for an organization at least once in the November 1986 to October 1987 period.

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# RRSPs – new rules, new growth

Hubert Frenken and Karen Maser

**I**n 1991, contributions to registered retirement savings plans (RRSPs) jumped 30% to \$14.6 billion, while the number of contributors increased 14% to 4.6 million. These increases occurred largely in response to new rules which standardized the tax treatment of all private retirement programs (see *Data source and definitions*) and increased RRSP contribution opportunities for many taxfilers.<sup>1</sup> The legislation also required employers to quantify the annual credits accrued by employees under employer-sponsored registered pension and deferred profit sharing plans (RPPs and DPSPs) and to report these values to Revenue Canada.

As a consequence of this legislation, information is now available, for the first time, on how much taxfilers could conceivably contribute to RRSPs in a given year, how much they actually contributed and how much unused "room" they left. Also, the linking of RPP/DPSP accruals with RRSP contributions provides a new measure of combined savings by participants in these programs.

There are many reasons why individuals might not use all the RRSP room available to them. Some may not have any

funds left after meeting their expenses out of their current income. Others, particularly those with relatively low incomes, may have little incentive to contribute to RRSPs, since they can expect the combined Canada and Quebec Pension Plan (C/QPP) and Old Age Security (OAS) benefits to generate income close to that earned previous to retirement. However, many taxfilers with unused room may need to be persuaded to take advantage of the opportunities available to them.

This article examines several dimensions of these data. Its focus, however, is on the RRSP room available and the amount not used by taxfilers.

## The role of earned income

In order to contribute, taxfilers must have RRSP room. To have such room in 1991, they had to have "earned income" in the previous year. More than three in four taxfilers had such income in 1990 and, of these, one third – almost 4.5 million – contributed.

Taxfilers without earned income in 1990 were concentrated in two groups: those with low income and those aged 65 and over. Less than half the people with total income below \$5,000 had earned income in 1990, and of these under 16% contributed.<sup>2</sup>

A large portion of low-income individuals were under 25 and relatively few of them (less than 10%) made RRSP contributions, even if they had income that qualified for RRSP purposes. Many of these taxfilers were students working part time. Even

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## Data source and definitions

This article uses data generated by Revenue Canada in response to the new legislation (Bill C-52) implemented in January 1991. This legislation introduced a comprehensive limit on tax assistance to members of employer-sponsored registered pension plans (RPPs) and deferred profit sharing plans (DPSPs) and to participants in both personal and employer-sponsored registered retirement savings plans (RRSPs).

For each taxfiler having income that qualifies for RRSP contribution purposes, the system records each year's qualifying income, contribution limits, actual contributions made, and unused amounts carried forward to the following year. The file also yields data on the taxfiler's sex and date of birth. For this analysis, taxfilers whose unused 1991 room and 1992 deduction limit were non-existent and those under 18 were removed from the file.

Since one objective of the legislation was to standardize the treatment of all tax-assisted retirement programs, participation in RPPs and DPSPs affects RRSP contribution opportunities. The new administrative file identifies RRSP contributors who also participate in RPPs or DPSPs. This permits a much more precise identification of both those individuals who are saving for their retirement and those who are not.<sup>3</sup>

Not all of the \$14.6 billion deposited into RRSPs in 1991 was subject to the deduction limits stipulated by the new legislation. Included in the total were more than \$2.2 billion in rollovers of retiring allowances and nearly \$400 million in pension payments rolled over into spousal RRSPs.<sup>4</sup> Thus, the amount subject to the deduction limits, i.e. "normal" contributions, was \$12.1 billion.

For further information on these data, contact Karen Maser.

**Earned income:** Income that qualifies for RRSP contribution purposes. It comprises income from employment (both paid work and self-employment), net rental income, alimony received, and benefits from certain loss-of-income or disability plans.

Alimony paid is deducted from earned income for taxfilers claiming such payments. Specifically excluded are investment and pension income, and government transfer payments. The previous year's earned income is used to calculate current RRSP contribution limits. For example, earned income in 1990 determined 1991 limits.

**RRSP room or deduction limit:** The maximum a taxfiler is allowed to contribute in a specific year. It includes unused room from previous years and created room in the current year. Created room is 18% of the previous year's earned income up to a maximum dollar amount (\$11,500 in 1991). Taxfilers who belong to an RPP or DPSP have their created room reduced to reflect the benefit earned under these programs. The 1992 deduction limit includes unused 1991 room and the amount created based on 1991 earned income.

**Unused room:** The amount remaining after subtracting actual contributions claimed on the tax return from that year's contribution room. Unused RRSP room can be carried forward to future years.

**Pension adjustment (PA):** A deemed value of annual benefits accrued under an RPP or DPSP that reduces the RRSP room. It varies from one plan to another and is subject to certain limitations. For a participant in a money purchase RPP or a DPSP, the PA equals the year's total employer and employee (if any) contributions. For defined benefit RPPs, it is a measure of the year's pension benefits accrued under the plan. The type of plan generating the PA cannot be identified from the data.

**RRSP rollovers:** Transfers of eligible income to RRSPs, not subject to the annual or accumulated deduction limits. In 1991, taxfilers could roll over retiring allowances or severance pay into their own RRSPs, within certain limits. Also, periodic payments from RPPs and DPSPs could be rolled over into spousal RRSPs, up to a maximum of \$6,000. Since these rollovers did not have to be applied towards the annual contribution deduction limits, they are not included in the analysis.

among younger, full-time workers, relatively few contributed. Only 17% of seniors reported qualifying income and, of these, less than 22% contributed in 1991.<sup>5</sup> Obviously, RRSPs are not a significant concern for the under 25 and over 65 populations.

### 1991 deduction limit

The 1991 deduction limit or RRSP room<sup>6</sup> was \$42.9 billion, an average of \$3,010 per per-

son. On average, the most room, \$3,460, was held by those aged 35 to 54. Nearly 83% of male and 70% of female taxfilers had RRSP room in 1991 with the average amount available being \$3,530 for men and \$2,390 for women (Table 1). Fewer women than men had earned income and their average earnings were lower as well (two-thirds of 1990 taxfilers with income below \$5,000 were women).



**Table 1**  
**Taxfilers with 1991 RRSP room**

	Number	Percent of all taxfilers	Average room
	'000	%	\$
<b>Both sexes*</b>	<b>14,259</b>	<b>77</b>	<b>3,010</b>
18-24 years	2,058	87	1,620
25-34 years	4,150	90	3,090
35-44 years	3,714	90	3,460
45-54 years	2,423	89	3,460
55-64 years	1,416	70	3,190
65 years and over	478	17	2,070
<b>Men</b>	<b>7,746</b>	<b>83</b>	<b>3,530</b>
18-24 years	1,074	91	1,770
25-34 years	2,204	97	3,610
35-44 years	1,973	96	4,120
45-54 years	1,328	93	4,100
55-64 years	857	76	3,720
65 years and over	300	24	2,370
<b>Women</b>	<b>6,507</b>	<b>70</b>	<b>2,390</b>
18-24 years	983	83	1,460
25-34 years	1,944	83	2,510
35-44 years	1,740	84	2,710
45-54 years	1,094	84	2,680
55-64 years	559	61	2,360
65 years and over	178	12	1,560

Source: RRSP room file

\* The age and sex identifiers were not available for a small number of taxfilers. Therefore, the numbers may not add to the totals.

## Using up RRSP room

Taxfilers used up 28% of the \$42.9 billion RRSP room available in 1991, having contributed \$12.1 billion. The remainder was carried forward to the 1992 tax year. More than 31% of the nearly 14.3 million taxfilers with room made RRSP deposits. Who contributed and who (despite having RRSP room) did not?

### Age makes a difference

The likelihood of participating in an RRSP increases with age (at least up to age 60)

(Chart A). Nearly half the taxfilers in their 50s with RRSP room contributed, using up 42% of their available room. This age group has traditionally had the highest participation rate and some of the highest average contributions (Frenken, 1990). Individuals in this group generally have higher earnings than they did at younger ages and typically find themselves in a family setting that permits the greatest opportunity for savings.

Only 24% of those aged 25 to 29 contributed. Financial conditions and other interests, more immediate than saving for retirement, might inhibit individuals in this age group from making RRSP deposits.

### Income is a determining factor

Not surprisingly, the higher the income, the higher the percentage of individuals with RRSP room who contributed. In 1991, over 80% of persons with more than \$80,000 in earned income<sup>7</sup> made RRSP contributions, using 77% of their available room (Chart B). Although contributors with earned income in excess of \$60,000 represented just 11% of all contributors, they deposited nearly one-fourth of the \$12.1 billion total. Their average contribution amounted to \$5,670, well over twice the average of contributors with earned income under \$60,000.

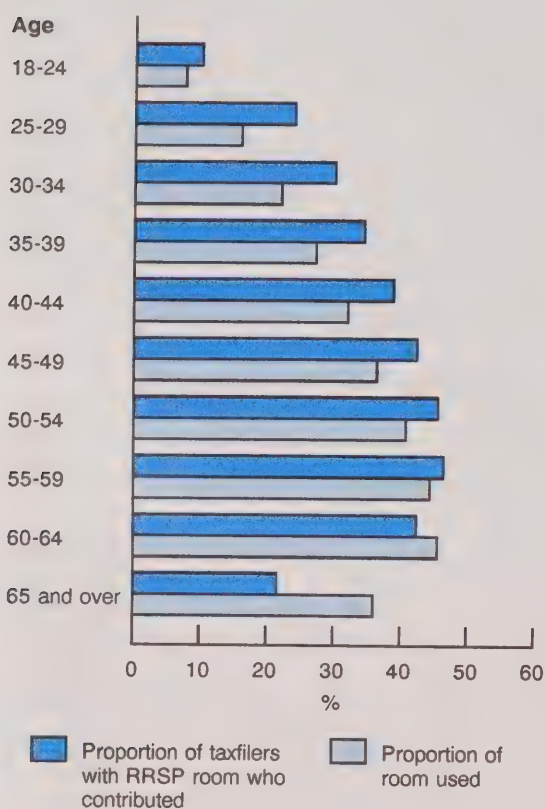
### Women catching up with men

In the last decade, the rate of growth in the number of women contributing to RRSPs outstripped that of men. In 1981, 31% of RRSP contributors were women; by 1991, that proportion had increased to 42%. At the same time, the amounts contributed by women also increased more rapidly. Women's contributions, 26% of the 1981 total, represented 34% of the \$12.1 billion contributed in 1991 (Table 2).<sup>8</sup>



Chart A

**Taxfilers in their 50s were the most likely to contribute to RRSPs in 1991.**



Source: RRSP room file

## RRSPs and other retirement savings

Participation in an employer-sponsored registered pension plan (RPP) or deferred profit sharing plan (DPSP) affects RRSP contribution limits. Since 1957, when RRSPs were first introduced, the maximum RRSP contribution allowed to members of RPPs was always less than for non-members. This lower limit also has applied to members of

DPSPs since 1975. The new legislation not only continued this practice, but also addressed some former inequities in the amount of tax assistance available to members of different plans. The current reduction in RRSP room, called the pension adjustment (PA), is a measure of tax-assisted savings under the two other programs (see *Data source and definitions* for further information).<sup>9</sup>

The file contains data on not just the taxfilers who contributed to RRSPs, but also on those with a PA and those with both RRSP contributions and a PA. Thus the file yields data on all individuals with some form of retirement savings, as well as those without any coverage under the three programs (RPPs, DPSPs and RRSPs).

## Membership in pension plans increases RRSP participation

RRSPs were established partially to provide equal opportunity for the accumulation of tax-assisted retirement savings to individuals not in an RPP. Yet, only 25% of taxfilers with RRSP room and no PA made RRSP contributions in 1991, while nearly 45% of the 4.8 million with a PA contributed.<sup>10</sup>

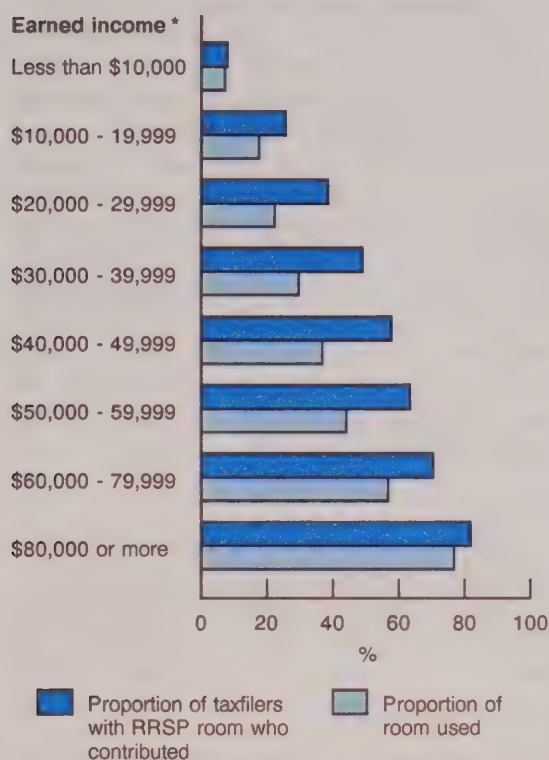
Taxfilers without a PA contributed \$3,170 on average, while those with a PA supplemented their average \$3,830 PA with \$2,200 in RRSP contributions, for a total of \$6,030. Those with a PA, who either had no remaining RRSP room or elected not to use their available room had an average PA of \$2,850.

## Accumulation of retirement savings varies

Half the taxfilers with RRSP room accumulated savings in at least one RPP, DPSP or RRSP in 1991. Their average savings, consisting of the reported PAs and their

Chart B

Both the likelihood of contributing and the use of RRSP room increased with income in 1991.



Source: RRSP room file

\* RRSP qualifying income

RRSP contributions, amounted to \$3,910. Participation in the three programs varied extensively with age and income. Nearly two-thirds of taxpayers in the 50 to 54 age group with RRSP room participated in 1991 and an amazing 95% of those with earned income between \$60,000 and \$79,999 did so as well. In a fashion similar to just RRSP participation, younger individuals and persons with low income were the least likely to accumulate savings in an RPP, DPSP or RRSP.<sup>11</sup>

### Fewer pensions for women

Not only were women less apt than men to have a PA, they also were slightly less likely to contribute to an RRSP in the absence of a PA. Their participation in pension and profit sharing plans continued to lag behind that of men in 1991 (31% versus 36% of those with RRSP room). Even though this situation might provide greater incentives for women to contribute to RRSPs, women's lower average earned income (\$18,360 versus \$30,000 in 1991) seemed to inhibit them from doing so. In fact, 27% of men with room and no PA contributed to RRSPs, compared with 22% of women.

Table 2  
RRSP contributors and contributions, 1991

	Contributors		Contributions*		
			Total	Average	
	'000	%	\$millions	%	\$
<b>Both sexes**</b>	<b>4,478</b>	<b>100</b>	<b>12,113</b>	<b>100</b>	<b>2,710</b>
18-24 years	203	5	257	2	1,270
25-34 years	1,126	25	2,472	20	2,190
35-44 years	1,353	30	3,793	31	2,800
45-54 years	1,058	24	3,203	26	3,030
55-64 years	633	14	2,026	17	3,200
65 years and over	103	2	358	3	3,490
<b>Men</b>	<b>2,579</b>	<b>100</b>	<b>7,970</b>	<b>100</b>	<b>3,090</b>
18-24 years	110	4	151	2	1,380
25-34 years	635	25	1,552	19	2,440
35-44 years	771	30	2,470	31	3,210
45-54 years	601	23	2,094	26	3,480
55-64 years	393	15	1,431	18	3,650
65 years and over	69	3	270	3	3,930
<b>Women</b>	<b>1,899</b>	<b>100</b>	<b>4,142</b>	<b>100</b>	<b>2,180</b>
18-24 years	93	5	106	3	1,140
25-34 years	491	26	920	22	1,870
35-44 years	582	31	1,323	32	2,270
45-54 years	457	24	1,109	27	2,430
55-64 years	240	13	595	14	2,470
65 years and over	34	2	88	2	2,590

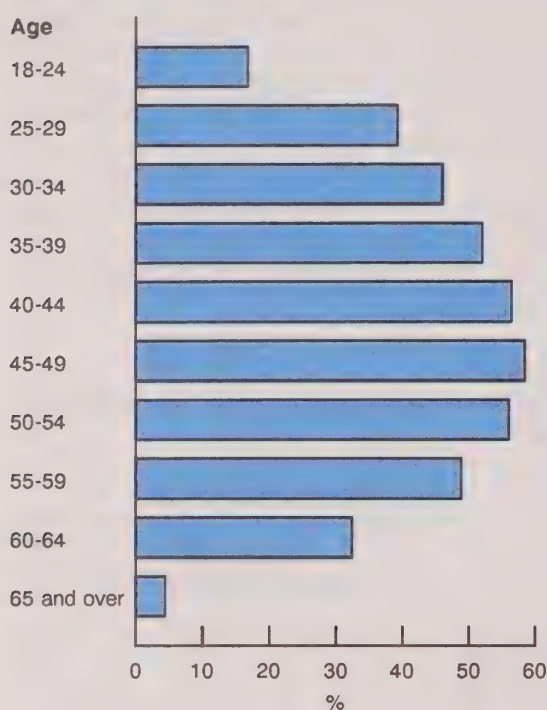
Source: RRSP room file

\* Excludes rollovers.

\*\* The age and sex identifiers were not available for a small number of contributors. Therefore, the numbers may not add to the totals.

Chart C

**Nearly 60% of taxfilers aged 45 to 49 accumulated some form of retirement savings in 1991.\***



Source: RRSP room file

\* Savings in at least one of the following: registered pension plan (RPP), deferred profit sharing plan (DPSP), RRSP

As a result of their lower RPP and DPSP coverage rates and their lower RRSP participation, a larger portion of women than men were not accumulating savings in these programs. While 47% of men with RRSP room lacked RPP, DPSP or RRSP savings in 1991, nearly 54% of women did not report any such savings on their tax returns that year.

## Retirement savings of the 18 to 64 year-old population

To determine more accurately the extent to which the working-age population is saving for retirement, taxfilers aged 65 and over were excluded. In 1991, 44% of taxfilers 18 to 64 years of age reported a pension adjustment, RRSP contributions, or both (Table 3). Therefore, 44% of working age taxfilers had some form of retirement savings that year. Their average savings, through both pension and profit sharing plans and RRSPs, were \$3,910.

Exactly one half of male taxfilers aged 18 to 64 accumulated retirement savings in 1991, compared with only 38% of their female counterparts. As well, average savings for men exceeded those for women: \$4,510 versus \$3,110.

**Table 3**  
**Taxfilers aged 18 to 64 with and without retirement savings, 1991**

	'000	%
<b>Total</b>	<b>15,867</b>	<b>100</b>
Without RRSP room	2,086	13
With RRSP room	13,780	87
With PA only	2,615	16
With RRSP contributions only	2,252	14
With both PA and RRSP contributions	2,123	13
With neither PA nor RRSP contributions	6,790	43
With retirement savings in 1991*	6,990	44
Without retirement savings in 1991**	8,877	56

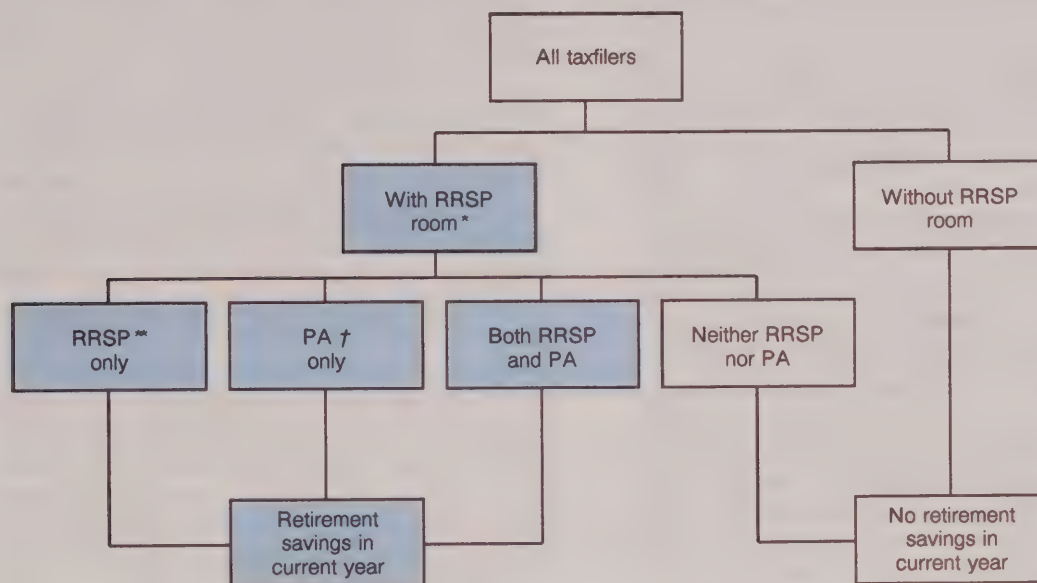
Source: RRSP room file

\* Includes all taxfilers with a PA and/or RRSP contributions.

\*\* Includes taxfilers without RRSP room and those with room but no PA or RRSP contributions.



## Retirement savings options for Canadian taxfilers



\* Taxfilers with earned income in current year or unused room from previous years

\*\* Taxfilers with RRSP contributions in current year

† Taxfilers with a pension adjustment (PA): the deemed value of benefits accrued under an employer-sponsored registered pension plan (RPP) or deferred profit sharing plan (DPSP)

## 1992 RRSP opportunities

The 1991 RRSP room file provides data not only on the utilization of the available room by taxfilers that year, but also on the RRSP room or deduction limit for 1992. In 1992, nearly 15.2 million persons were eligible to contribute \$72.7 billion to RRSPs. Since this amount included unused room from 1991 as well as newly created room in 1992, it was much higher (69%) than the \$42.9 billion available in 1991. Nearly \$31 billion of the \$72.7 billion was unused room from the previous year (Table 4).

The 15.2 million individuals with 1992 RRSP room represented a 6% increase from the previous year. Although men accounted

for less than 54% of the 15.2 million, they had nearly 63% of the \$72.7 billion.<sup>12</sup>

## Unused 1991 room

Unused room from 1991 made up 42% of the total 1992 deduction limit. This percentage varied extensively for different groups of taxfilers. Since few low-income individuals used all or any of their available room in 1991, their unused room represented a much larger share of the 1992 deduction limit than it did for persons with higher incomes. Nearly 67% of the 1992 room for those with earned income under \$10,000 was unused 1991 room, while for those earning \$80,000 or more it was only 17%.

**Table 4**  
**1992 RRSP Room**

	\$millions	% of 1992 room
Unused room from 1991	30,816	42
Plus: 18% of 1991 earned income*	57,568	
Minus: 1991 pension adjustment	15,678	58
<b>Total 1992 room</b>	<b>72,706</b>	<b>100</b>

Source: RRSP room file

\* Up to a maximum of \$12,500 per taxfiler

### PA reduces RRSP room

The \$57.6 billion RRSP room created for 1992 was reduced by the nearly \$16 billion of benefits accrued under RPPs and DPSPs, namely the pension adjustment (PA). The proportion of individuals having a PA increased as earned income increased, from 5% of those earning less than \$10,000 to 77% of those in the \$50,000 to \$59,999 range, reflecting the extent to which pension plan membership varies by income. Pension adjustments reduced RRSP room for those earning less than \$10,000 by only 3% but by 42% for those earning \$50,000 or more.

### Average room for 1992

The average 1992 deduction limit was \$4,800. The higher the earned income, the higher the available room: average room ranged from \$1,860 for those earning under \$10,000, to \$10,170 if earned income was \$80,000 or more. Because of the lower earnings of women in general, the room was a good deal higher for men (\$5,600 versus \$3,860).

Average room does not vary significantly by age.<sup>13</sup> It was between \$4,720 and \$5,590 for all age groups from 25 to 59, with those aged 35 to 44 at the top of the range.

### Conclusion

RRSP contributors and contributions increased 14% and 30%, respectively in 1991, primarily because of new and increased con-

tribution limits. Many high-income taxfilers, who have traditionally had the highest rates of participation and have maximized their contributions, could therefore secure additional tax-assisted savings.

Almost 50% of taxfilers in their 50s with an RRSP deduction opportunity used all or part of their potential. This age group has traditionally participated to the greatest extent and made some of the highest average contributions. With the first members of the baby boom generation entering this age group in 1996, RRSPs will likely continue to grow well into the next century, assuming no change in legislation or other factors.

For the 1992 taxation year, the sum of unused 1991 room and the newly created room totalled almost \$73 billion. Based on the utilization of the 1991 room, possibly only a quarter of that amount may have been used up by fewer than 5 million taxfilers. Many potential contributors either elected not to do so or were unable to because of financial limitations.

But RRSPs are not the only retirement savings opportunity. The linking of pension and profit sharing plan membership with RRSP participation shows that in 1991, 44% of all taxfilers aged 18 to 64 accumulated some form of retirement savings. The percentage is lowered considerably by the inclusion of younger taxfilers (less than 17% of those under 25 participated). The rate exceeded 52% for those aged 35 to 54, with nearly 60% of 45 to 49 year-olds accumulating benefits under an RPP, DPSP or RRSP.

The data do not show the extent to which individuals in different age groups have accumulated retirement savings in tax-assisted retirement programs over the years. However, with the mandatory locking-in of RPP accruals after two years of membership (now required in nearly all provinces), and with the bulk of RRSP deposits remaining till retirement age,<sup>14</sup> a growing number of Canadians are accumulating more and more retirement savings in one form or another. □



## Notes

<sup>1</sup> Taxfilers with increased deduction limits included members of employer-sponsored registered pension plans (RPPs) with high contribution requirements and non-members of RPPs with high income. The former, under the previous rules, had a \$3,500 maximum limit reduced by their RPP contributions, frequently resulting in little or no RRSP contribution opportunity. The latter had the previous ceiling of \$7,500 raised to \$11,500 in 1991.

On the other hand, contribution opportunities were reduced for some other taxfilers, particularly low-income individuals, through the lowering of the ceiling from 20% of earnings to 18%. Also, some high-income members of non-contributory RPPs may have seen their RRSP room reduced from the previous \$3,500.

<sup>2</sup> In general, taxfilers without earned income had much lower total income. In 1990, filers with earned income averaged \$28,100 in total income, \$23,700 of which was earned income. Those without earned income averaged only \$13,600 in total income.

<sup>3</sup> RPPs, DPSPs and RRSPs are not the only means of saving for retirement. The government-administered Canada and Quebec Pension Plan provides earnings-related retirement pensions and covers all workers 18 years of age and over.

<sup>4</sup> Retiring allowances are lump sum payments received by employees on retirement or loss of job. They may include settlements for unused sick leave, payments in recognition of long service or compensation for loss of employment. The total amount rolled over to RRSPs was unusually high in 1991 – 32% more than in 1990. The recession and the large number of layoffs may have been a factor. Rollovers of pension payments into spousal RRSPs will be disallowed following the 1994 tax year.

<sup>5</sup> Less than 7% of the population 65 and over were still in the labour force in 1991, and few of the rest had RRSP-qualifying income from other sources. Those that did, but were over 71, could no longer contribute to their own RRSP. (They could contribute to a spousal RRSP if their spouse was still not over 71.)

<sup>6</sup> The 1991 limit was based on 1990 earned income. Since 1991 was the implementation year of the new legislation, no unused room existed from previous years.

<sup>7</sup> Since total income was not available on the RRSP room file, analysis is limited to earned income only.

<sup>8</sup> The data exclude payments made by men to spousal RRSPs. In 1991, nearly 179,000 taxfilers (virtually all men) deposited \$872 million into spousal RRSPs. Part of that amount was subject to the husbands' deduction limits. For information on the role played by spousal RRSPs in the accumulation of RRSP savings by women, the growth of women's RRSP participation, and the role of family income in these contributions, see Frenken (1991).

<sup>9</sup> Deferred profit sharing plans (DPSPs), though not necessarily designed for retirement income purposes, serve that purpose to a large extent. Unlike members of pension plans, DPSP participants can receive lump-sum distributions from their plans on retirement. To avoid tax deduction at source from these distributions, they have the option of transferring the amounts to an RRSP or other registered plan, or purchasing an annuity.

There are no data on the number of DPSPs active in Canada, nor on the number of employees covered by them. However, probably only a relatively small portion of the 4.8 million 1991 taxfilers with a PA had accrued benefits under DPSPs rather than RPPs.

<sup>10</sup> A few of those with a PA and no RRSP contributions may have had a PA so large as to leave no RRSP room. However, the low income of many non-members of RPPs/DPSPs may be the major determining factor. RPP and DPSP participants have relatively high disposable incomes since they are generally employed in industries with the highest wages and are nearly all full-time workers. For detailed analysis of RPP participation see Frenken and Maser (1992).

<sup>11</sup> Just over 19% of those under 25 with RRSP room and only 11% of those with earnings below \$10,000 accumulated savings in these programs.

<sup>12</sup> These percentages were almost identical in 1991, when men accounted for just over 54% of the 14.3 million taxfilers with room and had slightly below 64% of the deduction limit.

<sup>13</sup> Persons under 25 years and those aged 65 and older are exceptions. Their room was considerably less than the \$4,800 average. However, saving for retirement is not a serious concern for these population groups.

<sup>14</sup> Although many contributors cash in all or part of their RRSP savings long before retirement, total RRSP assets have been growing at an annual rate of about 17% in recent years. For detailed analyses on the incidence of cashing in RRSPs and on the growth of RRSP assets, see Frenken (1992 and 1993).



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# KEY LABOUR AND INCOME FACTS

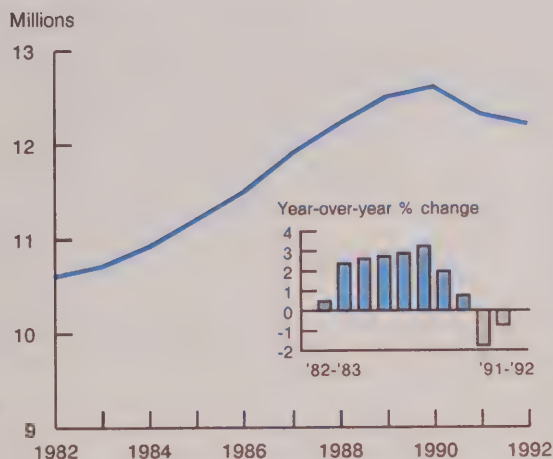
# PERSPECTIVES

ON LABOUR AND INCOME

Catalogue 75-001E

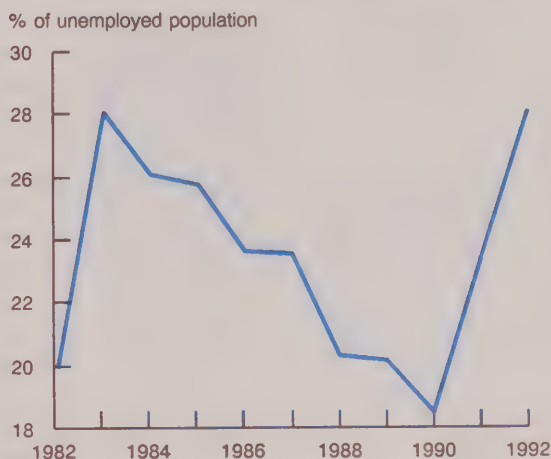
The information on these two pages represents a small portion of the detailed labour market and income data available in the **Key labour and income facts** department of *Perspectives on labour and income* where the latest annual figures are presented at the national, provincial and territorial levels.

## Total employed, 15 years and over



Source: Labour Force Survey  
(Key labour and income facts indicator 3)

## Proportion unemployed six months or longer



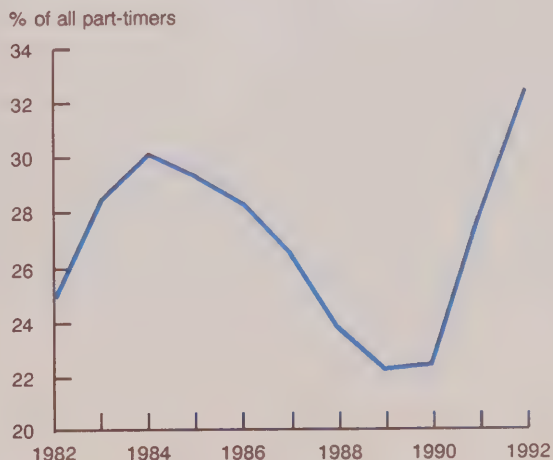
Source: Labour Force Survey  
(Key labour and income facts indicator 11)

## Days lost per full-time worker through illness or for personal reasons



Source: Labour Force Survey  
(Key labour and income facts indicator 15)

## Proportion of part-timers wanting to work full time



Source: Labour Force Survey  
(Key labour and income facts indicator 5)

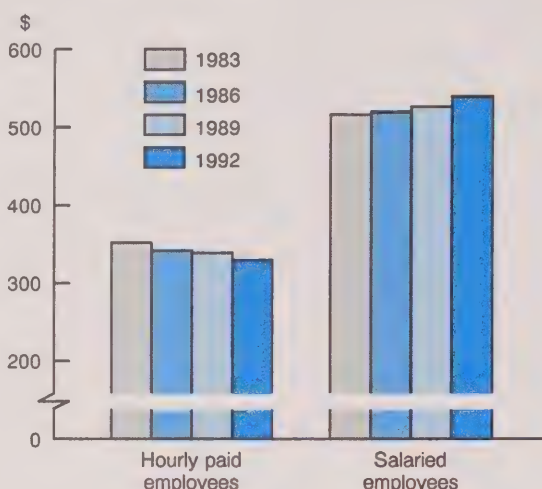


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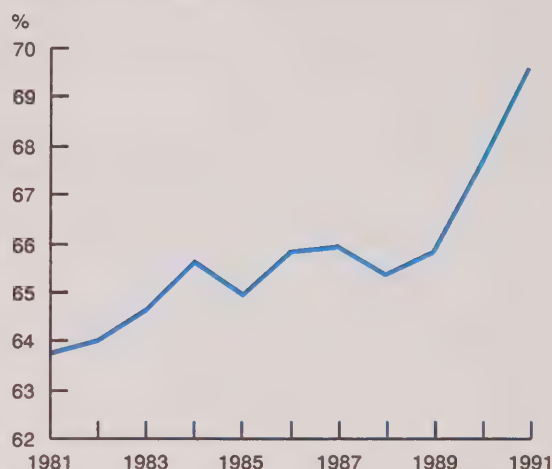
## KEY LABOUR AND INCOME FACTS (concluded)

Average weekly earnings in 1986 dollars



Source: Survey of Employment, Payrolls and Hours  
(Key labour and income facts indicators 24 and 26)

Ratio of female-to-male earnings among full-time, full-year workers



Source: Survey of Consumer Finances  
(Key labour and income facts indicator 38)

### Concepts and definitions

**Part-timers** usually work less than 30 hours per week (Labour Force Survey).

**Part-timers wanting full-time work** are persons working part time who would like to have a full-time job (Labour Force Survey).

Absences from work for **personal reasons** refers to work time lost because of personal or family responsibilities including maternity leave (Labour Force Survey).

**Average weekly earnings** (including overtime) represents gross taxable payrolls divided by the number of employees. It is calculated for all employees, as well as hourly-rated, salaried and other types of employees (Survey of Employment, Payrolls and Hours).

**Hourly paid employees** are those whose basic wage is expressed as an hourly rate (Survey of Employment, Payrolls and Hours).

**Salaried employees** are employees whose basic remuneration is a fixed amount for at least one week (Survey of Employment, Payrolls and Hours).

A **full-time, full-year worker** is a person who works mostly 30 or more hours per week (or usually works less than 30 hours, but considers him/herself to be employed full-time) for 49 to 52 weeks a year (Survey of Consumer Finances).

**Ratio of female-to-male earnings** consists of the average wage/salary and/or net income from self-employment of women as a proportion of men's (Survey of Consumer Finances).

### Interested in more indicators?

A time series (generally 10 years) for the 54 indicators can be obtained, on paper or diskette, at a cost of \$50. This 10-year dataset is updated quarterly. For information, contact Jeannine Usalcas at (613) 951-6889; fax (613) 951-4179.





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Catalogue 75-001E

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# Defining and measuring employment equity

Brenda Cardillo

**E**mployment equity is a uniquely Canadian term, introduced in 1984 by Judge Rosalie Abella in her Report of the commission on equality in employment. This report has been the cornerstone of the federal employment equity legislation and programs developed since the mid-1980s. Judge Abella stated, "Equality in employment means that no one is denied opportunities for reasons that have nothing to do with inherent ability. It means equal access free from arbitrary obstructions."<sup>1</sup>

The aim of this article is to explain Statistics Canada's role in furnishing benchmark data for employment equity purposes. To put this role in context, the first section provides an overview of employment equity in the federal sphere – the Act; the programs; the roles, responsibilities, and relationships among the key players; and the statistical requirements. The second section consists of questions and answers that focus on data sources, the interpretation of definitions and concepts, and the methods used by Statistics Canada to produce data in support of federal employment equity initiatives.

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## An overview of employment equity

### The Employment Equity Act

The Employment Equity Act was proclaimed on August 13, 1986. Its goal was to achieve workplace equality by ensuring that ability and qualifications are the only criteria for employment opportunities, benefits, and advancement. Specifically, the intention was to correct disadvantages experienced by four designated groups: women, visible minorities, Aboriginal peoples, and persons with disabilities.

The Act has three major premises. First, no one shall be denied employment opportunities and benefits for reasons unrelated to ability. Second, special measures are necessary to improve the employment situation of members of the designated groups. And third, "reasonable accommodation" requires employers to recognize legitimate differences between groups and take reasonable steps to accommodate those differences.

### Federal employment equity programs and responsibilities

The federal government has established three employment equity programs: Employment Equity in the Federal Public Service, the Legislated Employment Equity Program (LEEP), and the Federal Contractors Program (FCP).



### **Employment Equity in the Federal Public Service**

This program predates the Employment Equity Act. It was introduced in 1985 with the Survey of Public Service Employees, a voluntary survey of employees covered by the Public Service Employment Act (PSEA), which was conducted by the Treasury Board Secretariat (TBS). Since then, on the basis of departmental administrative records and individual submissions, this information about public service employees has been updated by the Public Service Commission (PSC). In addition, the PSC provides analytical and data services to the TBS by calculating availability estimates of members of the designated groups and establishing recruitment, promotion and separation targets for them. The TBS prepares annual reports, which contain information on designated group populations and changes over time.

In December 1992, the Public Service Reform Act (C-26) made the TBS explicitly responsible for designating employment equity groups in the federal public service and provided the legal basis for work towards the achievement of a representative workforce. The President of the Treasury Board Secretariat is now required to report to Parliament annually on the number of employees and the proportion of designated group members among them: a) for each public service institution; b) for each public service occupational group; c) by salary ranges; and d) in respect of recruitments, promotions and separations. This information is generated through collaboration of the TBS and the PSC. As of December 1992, the workforce for which the Treasury Board is employer totalled 235,340 employees.

### **Legislated Employment Equity Program**

LEEP was established in 1986 within Human Resources and Labour Canada (HRLC – formerly Employment and Immigration Canada) to administer, implement, and monitor compliance with the Act. It

applies to Crown corporations and employers with 100 or more employees in federally regulated sectors such as banking, communications, and transportation. These employers are required to prepare an employment equity plan with goals and timetables, identify and remove employment barriers, institute positive policies, and accommodate employees' physical, cultural, and other differences.

In 1988, employers began filing annual reports with HRLC on hirings, promotions, terminations, occupations, and salary levels of the designated groups. By 1991, the legislation covered 353 employers with a total workforce of approximately 617,000 (EIC, 1992).

### **Federal Contractors Program**

In addition to LEEP, Human Resources and Labour Canada is responsible for administering the Federal Contractors Program, which also began in 1986. Under this non-statutory program, to be eligible to bid on a federal contract to provide goods or services of \$200,000 or more in value, any employer with 100 or more employees must certify their commitment to employment equity. Although the FCP does not require employers to file annual reports, compliance officers request them to submit documents periodically. Officers also visit employers' premises to assess their efforts in meeting 11 planning and implementation criteria stipulated by the FCP. As of December 31, 1991, 1,348 organizations representing 1.1 million employees had certified their commitment under the FCP (EIC, 1992).

### **Canadian Human Rights Commission**

The commission (CHRC) also plays an important role in federal employment equity programs. The Commission receives all reports submitted to HRLC under LEEP and has the authority to initiate a joint review or a formal investigation if it has reasonable grounds to believe that systemic discrimina-

tion is demonstrated by the employers' submissions. The CHRC also investigates – under the authority of the Human Rights Act – individual and group complaints based on the reports received under the Employment Equity Act. Joint reviews and complaint investigations may also be based on the annual reports of federal departments. About two-thirds of the jobs under the Employment Equity Act and three-quarters of the jobs in the federal public service are currently subject to – or have been subject to – either a complaint investigation or a joint review.

#### **Statistics Canada's role**

To determine if their workforce is representative of the four designated groups, employers require benchmark data that describe the pool of workers potentially available. Such information on the composition of the external labour force, usually referred to as "availability" data (which include the building blocks for developing tailor-made availability estimates for each employer), is provided by Statistics Canada. With availability data, employers can compare the distribution of their own employees with these external statistics to gauge their performance in achieving employment equity and to develop realistic goals and timetables.

In response to recommendations in several reports (Abella, 1984; HC, 1984 and 1981) and the passage of the Employment Equity Act in 1986, Statistics Canada took measures to ensure that information would be collected on the four designated groups. As employment equity data requirements became more specific, the Employment Equity Data Program (EEDP) was established at Statistics Canada. All quantitative and qualitative data issues and reports in support of employment equity, including a broad spectrum of advisory functions, are performed or co-ordinated by this Program.

The EEDP is based on consensus about the interpretation and application of concepts, definitions, standards, methodologies, and questions by the four federal departments and agencies responsible for employment equity policies and programs. To facilitate the exchange of information and ensure consistency in approach by these agencies and Statistics Canada, the Interdepartmental Working Group on Employment Equity Data (IWGEED), along with an interdepartmental steering committee, was created.

#### **Data sources, concepts, and questions used by Statistics Canada**

Judge Abella recommended that "the data classifications developed for the implementation of employment equity match as closely as possible the data classifications of Statistics Canada."<sup>2</sup> However, designing or modifying survey questions to address specific employment equity needs presents a number of challenges. Not only is employment equity a concept without precedents, but many of the variables are complex, sensitive, and contentious (for example, race, colour, "limited at work" – for persons with disabilities). In addition, most data on the designated groups and employment equity concepts must be derived from information collected for other purposes. Thus, in some instances, standard Statistics Canada classification systems, labour force reference periods, and terminology had to be modified to address employment equity needs. Such adjustments, along with the underlying assumptions and supporting documentation, must withstand the scrutiny of employers, advocacy groups, federal departments and, ultimately, courts of law.

The following questions and answers are designed to show how Statistics Canada sources have been used to provide employment equity availability data.



### 1991 Data

The information on women, visible minorities, Aboriginal peoples, and persons with disabilities in this article is based on results of the 1986 Census and the 1986 Health and Activity Limitation Survey (HALS). Employment equity data from the 1991 Census and the 1991 HALS, as well as the definitions on which these data are based, will be released early in 1994. A document explaining the 1991 definitions and how they differ from those used in 1986 may be obtained from the Employment Equity Data Program; Housing, Family and Social Statistics Division; Statistics Canada (613) 951-0247.

### What are "availability" data?

"Availability" data are statistics describing the composition of the external labour force. Availability statistics are defined as "data on the number or percentage of designated group members possessing the requisite skills within the relevant labour market for particular occupations or groups of occupations."<sup>3</sup>

The latest package of availability data (EIC, 1989) displays the numbers and percentages of designated group members by qualification, labour force activity, occupational group, and geographic area (national, provincial/territorial, selected census metropolitan areas) for 1986.<sup>4</sup> Updated availability statistics based on 1991 data sources will be released in 1994 (see *1991 data*).

### How is the labour force defined for employment equity purposes?

Statistics Canada compiles most of its labour force data based on the week before enumeration (reference period). For employment equity, this reference period is too short to identify the supply of designated group members in various occupations because women, visible minorities, Aboriginal peoples, and persons with disabilities experience greater mobility into and out of the labour force than do most other individuals. As well, once out of the labour force, members of the designated groups tend to encounter more difficulty re-entering than do other workers.

A one-week reference period does not take into account people who are qualified and potentially available for work, but who have dropped out of the labour force because of discouragement or other factors.

Thus, the employment equity reference period was expanded, and information was tabulated for the "extended" labour force. The extended labour force includes the employed and the unemployed, as well as those not currently in the labour force, but who last worked sometime within the previous 17 months (for women, visible minorities, and Aboriginal peoples) and, for persons with disabilities, anytime in the previous five and a half years.<sup>5</sup> The lengthened period for persons with disabilities reflects the fact that they tend to stay out of the labour force for longer periods than the non-disabled population.

### How are availability data developed for occupations?

Occupational data from the 1986 Census are based on the Standard Occupational Classification (SOC) of 1980. For employment equity purposes, HRLC collapsed the SOC unit group occupations (approximately 500) into 12 specific categories (and one residual group) to correspond to the occupational structure within companies and to measure the representation and career movements of designated group members over time. The groups are:

1. Upper-level managers
2. Middle and other managers
3. Professionals
4. Semi-professionals and technicians
5. Supervisors
6. Foremen/women
7. Clerical workers
8. Sales workers
9. Service workers
10. Skilled crafts and trades workers
11. Semi-skilled manual workers
12. Other manual workers
13. Not stated.



Since 1986, HRLC, in consultation with Statistics Canada, has developed a new system, the National Occupational Classification (NOC), to replace the 1980 SOC. The NOC unit groups reflect changes in the labour market that have taken place over the past two decades. The two main classification criteria on which the NOC is based are skill level (amount and type of education and training required to enter an occupation) and skill type (type of work performed). The NOC can be organized from a skill level or skill type perspective or a combination of the two. This flexibility allows users to re-organize the information to best meet their needs.

The 1991 Census was coded to both the 1980 SOC and the NOC. It is, therefore, possible to derive occupational data using either classification. Plans call for future censuses of Population to be coded to the NOC alone.

### Why are availability data provided for different geographic levels?

The Employment Equity Regulations specify that employers must submit reports according to the number of employees that they have at different geographic levels: national (all Canada); provincial/territorial; and eight CMAs (Halifax, Montreal, Toronto, Winnipeg, Regina, Calgary, Edmonton, and Vancouver). Thus, Statistics Canada provides availability data for these geographic levels to help ensure that employers are judged fairly and realistically on the basis of the pool of workers in their specific location (Table). For example, in 1986, Aboriginal peoples accounted for approximately 45% of the availability pool in the Northwest Territories, but less than 2% in Newfoundland. Similarly, the counts of visible minorities varied widely in different CMAs: the avail-

### Representation of designated groups by geographic area

	Population aged 15 and over who worked in 1985 or 1986									
	Total		Men		Women		Aboriginal peoples		Visible minorities	
	'000	%	'000	%	'000	%	'000	%	'000	%
<b>Canada</b>	<b>13,857.8</b>	<b>100.0</b>	<b>7,759.6</b>	<b>56.0</b>	<b>6,098.2</b>	<b>44.0</b>	<b>294.4</b>	<b>2.1</b>	<b>872.7</b>	<b>6.3</b>
Newfoundland	265.0	100.0	154.8	58.4	110.1	41.6	4.2	1.6	1.7	0.6
Prince Edward Island	67.8	100.0	37.7	55.6	30.1	44.4	0.6	0.9	0.7	1.0
Nova Scotia	443.1	100.0	254.6	57.4	188.6	42.6	5.9	1.3	11.8	2.7
New Brunswick	348.7	100.0	199.5	57.2	149.2	42.8	3.6	1.0	3.7	1.0
Quebec	3,343.6	100.0	1,921.2	57.5	1,422.3	42.5	35.3	1.1	112.3	3.4
Ontario	5,262.5	100.0	2,887.0	54.9	2,375.5	45.1	80.6	1.5	447.4	8.5
Manitoba	585.4	100.0	324.4	55.4	261.1	44.6	30.3	5.2	30.9	5.3
Saskatchewan	544.9	100.0	309.4	56.8	235.5	43.2	24.0	4.4	12.6	2.3
Alberta	1,394.5	100.0	774.6	55.5	619.9	44.5	42.8	3.1	90.7	6.5
British Columbia	1,560.1	100.0	872.5	55.9	687.6	44.1	52.6	3.4	160.0	10.3
Yukon	14.9	100.0	8.2	55.3	6.7	44.7	2.5	16.6	0.3	2.2
Northwest Territories	27.2	100.0	15.6	57.2	11.6	42.7	12.2	44.7	0.7	2.5
Halifax	171.7	100.0	94.5	55.1	77.1	44.9	2.1	1.2	7.7	4.5
Montreal	1,588.7	100.0	886.3	55.8	702.3	44.2	12.8	0.8	103.4	6.5
Toronto	2,108.8	100.0	1,130.7	53.6	978.0	46.4	19.3	0.9	345.7	16.4
Winnipeg	361.4	100.0	193.9	53.6	167.5	46.4	11.7	3.2	28.2	7.8
Regina	108.1	100.0	57.6	53.3	50.5	46.7	3.1	2.8	4.6	4.2
Calgary	417.8	100.0	227.4	54.4	190.4	45.6	7.7	1.9	39.8	9.5
Edmonton	472.2	100.0	257.4	54.5	214.9	45.5	12.5	2.6	39.2	8.3
Vancouver	790.3	100.0	431.3	54.6	359.0	45.4	14.9	1.9	127.5	16.1

Source: 1986 Census of Canada

Note: Totals may not equal the sum of components due to rounding and suppression.

ability pool in Toronto and Vancouver exceeded 16%, compared with 4.5% in Halifax.

### **How are availability data used?**

An employer's workforce is representative when it approximates the proportions of women, visible minorities, Aboriginal peoples, and persons with disabilities in each occupation estimated to be available in the external workforce. A non-representative workforce signals the need for evaluation and remedial action. Availability data can help these employers develop realistic goals and timetables for achieving a more balanced workforce by providing the building blocks from which employer-specific availability estimates (based on the occupational and geographical composition of an employer's workforce) may be developed.

### **What surveys does Statistics Canada use to produce availability data?**

Because of the level of occupational and geographic detail required by the Employment Equity Regulations, only two surveys have sufficiently large sample sizes to permit the calculation of reliable availability estimates: the Census of Population and the Health and Activity Limitation Survey (HALS).<sup>6</sup> The Census, which is conducted every five years, is the source of data on women, visible minorities, and Aboriginal peoples. HALS is a post-censal survey first undertaken after the 1986 Census and repeated after the 1991 Census.

## **Women**

### **From an employment equity perspective, which designated group is the easiest to measure?**

As might be expected, the identification and counts of women are the most straightforward. Data on women have been obtained from the Census (1986 and 1991) using the following question:

#### **Sex**

- ☐ Male  
☐ Female

Based on the 1986 Census, women accounted for 44% of the population aged 15 and over who worked in 1985 or the first five months of 1986 (EIC, 1988).

## **Visible minorities**

### **How are visible minorities defined for employment equity purposes?**

According to the Employment Equity Regulations, visible minorities are persons (other than Aboriginal peoples) who are "non-Caucasian in race or non-white in colour" and who identify themselves to an employer, or agree to be identified by an employer, as "non-Caucasian in race or non-white in colour." The term "visible minorities" encompasses ten groups: Blacks, Indo-Pakistanis, Chinese, Koreans, Japanese, Southeast Asians, Filipinos, other Pacific Islanders, West Asians and Arabs, and Latin Americans. Approximately 50 ethnic groups are included in these 10 categories (Coulter and Furrie, 1989).

### **How were visible minorities identified in the 1986 Census?**

The 1986 Census questionnaire was finalized in 1985, thus predating passage of the Employment Equity Act by over a year. Because the Census did not contain questions enabling the direct identification of visible minorities, counts had to be derived indirectly. The ethnic origin question was the main source of information for calculating estimates of visible minorities, with supplementary data from questions such as place of birth and mother tongue also being used (Coulter and Furrie, 1989). Nevertheless, the ethnic origin question alone identified about 90% of visible minorities. The ethnic origin question asked:



**To which ethnic or cultural group(s) do you or did your ancestors belong?**

*Mark or specify as many as applicable.*

- ☐ French
- ☐ English
- ☐ Irish
- ☐ Scottish
- ☐ German
- ☐ Italian
- ☐ Ukrainian
- ☐ Dutch (Netherlands)
- ☐ Chinese
- ☐ Jewish
- ☐ Polish
- ☐ Black
- ☐ Inuit
- ☐ North American Indian
- ☐ Métis

Other ethnic or cultural group(s). For example, Portuguese, Greek, Indian (India), Pakistani, Filipino, Japanese, Vietnamese. (specify below)

Other (specify)

Other (specify)

Other (specify)

The accompanying information in the Census Guide stated:

Ethnic or cultural group refers to the "roots" or ancestral origin of the population and should not be confused with citizenship or nationality. Canadians belong to many ethnic and cultural groups such as Inuit, North American Indian, Métis, Irish, Scottish, Ukrainian, Chinese, Japanese, East Indian (from the subcontinent of India), Dutch, English, French, etc.

Note that in cases where you use language as a guide to your ethnic group, you should report the specific ethnic group to which you belong, e.g., Haitian rather than French; Austrian rather than German.

The ethnic origin question will provide information which is used extensively by the many ethnic or cultural associations in Canada to study the size, location and other aspects of their respective groups.

**What if people checked and/or wrote in more than one response to the ethnic origin question?**

An eleventh group was added for persons reporting more than one visible minority origin. These responses were grouped separately to avoid giving preference to one group and to avoid double counting. For example, those who reported being both Chinese and Indo-Pakistani were assigned to the multiple origin category.

Persons who reported both a visible minority and non-visible minority status were included in the counts for the appropriate visible minority group. For instance, those who reported Filipino and British ethnic origins were included in the Filipino group. A very small number of people (12,485) who reported **both** visible minority and Aboriginal ethnic origins were included in the counts of both designated groups. This decision by HRLC was made to avoid assigning a respondent to one designated group as opposed to another.

**What was the size of the visible minority population in 1986?**

From the 1986 Census it was determined that, for employment equity purposes, Canada's visible minorities accounted for 6.3% of the population aged 15 or over who worked in 1985 or the first five months of 1986 (EIC, 1988).

**Were any changes made to the 1991 Census that could affect counts of visible minorities?**

To encourage the reporting of visible minority origins, a "Note" accompanied the ethnic origin question, and more extensive information was provided in the instructions about the purpose of the question and the



level of specificity required. The examples were also modified and the number of write-in spaces was reduced from three to two. The question was:

**To which ethnic or cultural group(s) did this person's ancestors belong?**

*Mark or specify as many as applicable.*

**Note:**

*While most people of Canada view themselves as Canadian, information about their ancestral origins has been collected since the 1901 Census to reflect the changing composition of the Canadian population and is needed to ensure that everyone, regardless of his/her ethnic or cultural background, has equal opportunity to share fully in the economic, social, cultural and political life of Canada. Therefore, this question refers to the origins of this person's ancestors.*

- ☐ French
- ☐ English
- ☐ German
- ☐ Scottish
- ☐ Italian
- ☐ Irish
- ☐ Ukrainian
- ☐ Chinese
- ☐ Dutch (Netherlands)
- ☐ Jewish
- ☐ Polish
- ☐ Black
- ☐ North American Indian
- ☐ Métis
- ☐ Inuit/Eskimo
- ☐ Other ethnic or cultural group(s)

Other (specify)

Other (specify)

**Examples of other ethnic or cultural groups are:** Portuguese, Greek, Indian from India, Pakistani, Filipino, Vietnamese, Japanese, Lebanese, Haitian, etc.

In addition to repeating the "Note," the Census Guide information for this question read:

"This question provides information which can be used extensively by ethnic or cultural associations to study the size, location, characteristics and other aspects of their respective groups.

Ethnic or cultural origin refers to the ethnic "roots" or ancestral background of the population, and should not be confused with citizenship or nationality. Canadians have many ethnic or cultural origins – such as Inuit, North American Indian, Métis, Irish, Scottish, French, Ukrainian, Chinese, Japanese and East Indian (from India).

When determining cultural origin, report the specific ethnic group to which your ancestors belonged rather than the language they spoke. For example, report Haitian rather than French, or Austrian rather than German.

For persons of South Asian origin, do not report Indian. Please specify Indian from India, Indian from Fiji, Indian from Guyana, etc., or indicate the group such as Punjabi, Tamil, Pakistani."

As was the case in 1986, ethnic origin remains the pivotal question on which the identification of visible minorities was based in 1991; however, a comprehensive strategy covering the interaction of the four ethnocultural variables (ethnic origin, place of birth, language, and religion) has been developed.<sup>7</sup>

The target population for the 1991 Census was expanded to include, for the first time, "non-permanent residents"<sup>8</sup> – a total of 223,410 additional persons, of whom 108,420 were part of the extended labour force. It has been estimated that visible minorities could account for three-quarters of non-permanent residents (Michalowski, 1991). Thus, inclusion of non-permanent residents could increase the count of visible minorities by approximately 81,000 in 1991, or 9% over the 1986 figure.

**Was any consideration given to including a question that would allow for the direct identification of visible minorities on the Census?**

It has been argued that a question on race is the most appropriate means of identifying persons to satisfy the focus on race and colour inherent in the Employment Equity Act. In preparing for the 1991 Census, Statistics Canada tested this question:

**Which of the following best describes this person's race or colour?**

Persons of mixed race should mark or print the applicable groups.

☐ White

☐ Asian

☐ Black

☐ Other race or colour – specify

This question was not tested in isolation; an ethnic origin question (with supplementary questions on country of birth and language) was also asked. The response rate for the race question was excellent,<sup>9</sup> yielding a count of the visible minority population comparable to the 1986 availability counts (Mohan, 1990). However, the four departments responsible for federal employment equity legislation and programs concluded that the use of the race question was not sufficiently advantageous to warrant switching from the approach used to derive data from the 1986 Census.

The term "visible minority" was used in questions on the Labour Market Activity Survey and in Overcoverage Study Surveys. These surveys demonstrated that the term is not well understood by the average respondent, even when definitions and instructions are included. Moreover, francophones and

immigrants tended to self-identify as visible minorities, even though they were not – by virtue of their race or colour – part of the visible minority population (White, 1989). Thus, a question using the term "visible minority" was not included in the 1991 Census.

## Aboriginal peoples

### How were Aboriginal peoples defined and counted for employment equity purposes in 1986?

For the purpose of the Employment Equity Act, Aboriginal peoples are "Indians, Inuit or Métis" who identify themselves to an employer, or agree to be identified by an employer, as "Indians, Inuit or Métis." Data about this designated group were obtained from the ethnic origin question of the Census. Respondents who checked the boxes for "North American Indian, Métis, or Inuit" as a single response or as part of a multiple response were included in the Aboriginal counts. As noted earlier, those who indicated both Aboriginal and visible minority origins were included in the counts for both groups.

### For employment equity purposes, how large was the Aboriginal population in 1986?

According to 1986 Census results, Canada's Aboriginal peoples accounted for 2.1% of the population 15 and over who worked in 1985 or the first five months of 1986 (EIC, 1988).

In 1986, Census enumeration was not permitted or was interrupted before completion on some Indian reserves and settlements. Consequently, data were not obtainable for these areas and are not included in the availability counts. It is estimated that almost 45,000 people on reserves were excluded from the 1986 Census.



### Were any changes made to the 1991 Census that could affect counts of Aboriginal peoples?

As was the case in 1986, the 1991 ethnic origin question included Aboriginal groups; the only change was the inclusion of the term "Eskimo" along with "Inuit." As well, a new question on registered Indian or band status was asked of all persons regardless of how they responded to the ethnic origin query:

**Is this person a registered Indian as defined by the Indian Act of Canada?**

☐ No

☐ Yes, registered Indian

Specify Indian Band or First Nation (for example, Musqueam)

Therefore, the 1991 Census supplements the ancestry dimension in the ethnic origin question by including individuals in the Aboriginal population if they reported a registered Indian status. If and how these two questions will interact is being determined.

During the 1991 Census, 78 Indian reserves and settlements, representing approximately 38,000 individuals, were incompletely enumerated. As a result, 1991 data are not available for those reserves and settlements. However, for large areas (Canada, provinces, territories, CMAs), the impact of the missing data is quite small.

## Persons with disabilities

### How are persons with disabilities defined for employment equity purposes?

The Employment Equity Regulations state that for purposes of the Act, persons with disabilities are considered to be those who:

- (i) have any persistent physical, mental, psychiatric, sensory or learning impairment;
- (ii) consider themselves to be, or believe that an employer or a potential employer would be likely to consider them to be, disadvantaged in employment by reason of an impairment referred to in (i); and
- (iii) for the purposes of section 6 of the Act, identify themselves to an employer or agree to be identified by an employer, as persons with disabilities.

Availability data for persons with disabilities are based on the non-institutionalized population aged 15 to 64 in the extended workforce (i.e., who had worked in the previous five and a half years), who indicated on the post-censal Health and Activity Limitation Survey (HALS) that they were limited at work by virtue of their disability. The definition of disability used in HALS was taken from the World Health Organization: "In the context of health experience, a disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being."<sup>10</sup> For the adult population, HALS determines disability through a number of screening questions that cover difficulties in performing routine tasks of daily living such as walking, climbing stairs, or reading a newspaper. In addition, to be classified as a disability, the limitation must have lasted (or be expected to last) a minimum of six months. Individuals are not considered disabled if they use a technical aid that completely eliminates the limitation.

### What questions in the 1986 HALS were used to identify persons with disabilities for employment equity purposes?

Though developed before passage of the Employment Equity Act, the 1986 HALS was the source used for data on persons with



disabilities. The "limited at work" sub-population of disabled persons was determined by including anyone who responded positively to one or more of the screening questions on performing routine tasks and who replied affirmatively to one or more of the following questions:

**Because of a long-term physical condition or health problem, that is, one that is expected to last 6 months or more, are you limited in the kind or amount of activity you can do ...** *(asked of all respondents)*

At school or at work?

- ☐ Yes, is limited  
☐ No  
☐ Not applicable

**Because of a long-term emotional, psychological, nervous, or mental health condition or problem, are you limited in the kind or amount of activity you can do ...** *(asked of all respondents)*

At school or at work?

- ☐ Yes, is limited  
☐ No  
☐ Not applicable

**Are you limited in the kind or amount of work you can do at your present job or business because of your condition or health problem?** *(asked of the employed)*

- ☐ Yes ☐ No

**Are you limited in the kind or amount of work you could do at a job or business because of a condition or health problem?** *(asked of the unemployed)*

- ☐ Yes ☐ No

**Does your condition or health problem completely prevent you from working at a job or business?** *(asked of persons not in the labour force)*

- ☐ Yes ☐ No

**Does your condition or health problem limit the kind or amount of work you could do at a job or business?** *(asked of persons not in the labour force)*

- ☐ Yes ☐ No

**For employment equity purposes, how many persons with disabilities were there in Canada in 1986?**

It was estimated that 5.4% of the Canadian population aged 15 to 64 who had worked sometime in the period extending from 1981 to the autumn of 1986 were limited at work because of a disability (EIC, 1992).

**Were any changes made to the HALS questions between 1986 and 1991?**

Four of the six questions that defined the "limited at work" subpopulation in the 1986 HALS were repeated in 1991<sup>11</sup>. Minor modifications were made to the two other questions to take account of past (as well as expected) duration of disability and to eliminate the reference to school:

**Because of a long-term physical condition or health problem, that is, one that has lasted or is expected to last 6 months or more, are you limited in the kind or amount of work you can do ...** *(asked of all respondents)*

At work?

- ☐ Yes, is limited  
☐ No  
☐ Not applicable

**Because of a long-term emotional, psychological, nervous or psychiatric condition, that is, one that is expected to last six months or more, are you limited in the kind or amount of activity you can do ...** *(asked of all respondents)*

At work?

- ☐ Yes, is limited  
☐ No  
☐ Not applicable

This rewording has tightened the congruence between these questions and the Employment Equity Regulations.

The 1991 HALS also introduced new questions about employer perceptions:

**Do you believe that your current employer or any prospective employer would be likely to consider you disadvantaged in employment because of your condition or health problem?**

*(asked of the employed)*

- ☐ Yes
- ☐ No
- ☐ Don't know

**Do you believe that any prospective employer would be likely to consider you disadvantaged in employment because of your condition or health problem?** *(asked of the unemployed)*

- ☐ Yes
- ☐ No

**Do you believe that any prospective employer would be likely to consider you disadvantaged in employment because of your condition or health problem?** *(asked of persons not in the labour force)*

- ☐ Yes
- ☐ No

### **Who should be contacted for further information?**

More information about the various federal programs, policies, legislation and data is available from the following:

- Ida Trachtenberg, Manager, Employment Equity Data Program; Housing, Family and Social Statistics Division; Statistics Canada, 7th Floor, Jean Talon Building, Ottawa, Ontario, K1A 0T6, (613) 951-2559.
- Rick Henderson, Director, Data Development and Systems Analysis; Employment Equity; Human Resources and Labour Canada, 5th Floor, Phase IV, 140 Promenade du Portage, Hull, Québec, K1A 0J9, (819) 953-7512.
- Erika Boukamp Bosch, Chief, Statistical Analysis; Employment Equity; Canadian Human Rights Commission, Place de Ville, Tower A, 320 Queen Street, Ottawa, Ontario K1A 1E1, (613) 943-9068. □

## Notes

<sup>1</sup> R. Abella, *Report of the Commission on equality in employment* (1984), p. 2.

<sup>2</sup> Ibid., p. 256.

<sup>3</sup> Employment and Immigration Canada, *Employment Equity Act and reporting requirements* (1986), glossary.

<sup>4</sup> The availability package contains only a small portion of the data on designated groups provided by Statistics Canada. In addition to the availability tables, the EEDP has published approximately 60 reports covering a range of topics related to employment equity.

<sup>5</sup> For 1986, the reference period for the extended labour force for women, visible minorities and Aboriginal peoples was January 1985 to May 1986 inclusive. For persons with disabilities, the reference period for the extended labour force was January 1981 to autumn 1986 inclusive.

<sup>6</sup> Other Statistics Canada surveys have included questions to identify some or all of the designated groups: Labour Market Activity Survey, Follow-up of 1986 Graduates Survey, Survey of Literacy Skills Used in Daily Life, National Apprenticeship Survey, Post-Censal Aboriginal Peoples Survey. Data from these sources supplement information from the "availability" sources and assist with program monitoring and policy development.

<sup>7</sup> An algorithm assigning persons to the visible minority subpopulation and a summary of the proposed visible minority derivations for 1991 have been presented by W. Boxhill in *Making the tough choices in using census data to count visible minorities in Canada* (1990), pp. 19 and 36-42.

<sup>8</sup> "Non-permanent" residents of Canada include the following groups of persons and their dependants: persons claiming refugee status; persons who hold a student authorization; persons who hold an employment authorization; and persons who hold a Minister's permit.

<sup>9</sup> The National Census Test (NCT) was the first occasion that a race/colour question was asked by Statistics Canada on a large sample questionnaire using Census methods (drop-off and mailback). The level of non-response was 4.7% for the race/colour question, slightly lower than the rates recorded for the "ethnic or cultural origins of a person's parents and grandparents" and the "person's ethnic or cultural identity."

<sup>10</sup> World Health Organization, *International classification of impairments, disabilities, and handicaps* (1980), p. 143.

<sup>11</sup> Questions E10, E42, E68 and E69 in the 1991 HALS are the same as questions D19, D55, D69 and D73 in the 1986 HALS. See Harvey, 1992.

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## What's new?

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### Just released

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#### *Census results confirm accuracy of new LFS education categories*

In January 1990, the Labour Force Survey (LFS) changed its questions on education to collect more detailed data on respondents' level of educational attainment. A special article in the August 1993 issue of *The labour force* (Catalogue 71-001) assesses the success of the change, by comparing the LFS estimates with those of the 1991 Census. The data show that the two match quite closely, despite the differences in collection methods.

At each end of the education scale – less than high school on the one and university degree on the other – the LFS and Census estimates are almost identical. It is the categories in-between that show the largest discrepancies.

The LFS estimate for the number of persons with high school graduation is 5.9 percentage points higher than that of the Census, while it is 4.7 points lower for those with some postsecondary education (completed or not). The author concludes that these discrepancies may stem from methodological differences: the Census' more extensive questions on postsecondary studies may have resulted in more detailed responses than did the LFS; moreover, the LFS proxy reporting technique may not capture all relevant data. These effects combine to produce a gap between the two estimates.

The article also examines the labour force activity of persons aged 19 to 24 during the period 1990-1992, based on whether or not they had high school graduation.

*The labour force* (Catalogue 71-001) is available for \$17.90 per issue, \$179.00 per year from Marketing Division, Sales and Service, Statistics Canada, Ottawa K1A 0T6; or call toll-free 1-800-267-6677; fax (613) 951-1584. For more information about the LFS education variables, call Jean-Marc Lévesque at (613) 951-2301. □

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#### *Almost half of adults with disabilities employed in 1991*

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The proportion of working-age Canadians with some form of disability was 13% in 1991, or 2.3 million. This proportion was up from 10%, or 1.8 million, in 1986. About 54% of the working-age population with disabilities characterized their disabilities as mild, 32% as moderate and 14% as severe. These statistics are among the findings recently released in *Adults with disabilities: their employment and education characteristics*. Based on the 1991 Health and Activity Limitation Survey (HALS), this new publication includes information for Canada, the provinces and territories, as well as 17 census metropolitan areas. Comparisons of working-age Canadians (aged 15 to 64) are made between those with and without disabilities.

Part of the increase in the number of workers with disabilities can be attributed to the aging of the population, since older

people tend to have more disabilities. However, the rise is also partly due to a change in the survey's methodology, which in 1991 extended coverage to a wider range of mental health conditions, mental handicaps and learning disabilities.

In examining the labour market experiences of adults with disabilities, the report found the following:

- In 1991, almost half (48%) of working-age persons with disabilities were employed, compared with only 40% five years earlier.
- Adults with mild disabilities were more likely to be employed (62%) than those with moderate or severe disabilities; in fact, 82% of the increase in employment among persons with disabilities was attributable to those with only mild disabilities.
- The unemployment rate was 14.4% in 1991, compared with 9.8% for working-age Canadians without disabilities. The rate was 12.4% for those with mild disabilities, but 16.5% and 27.9% for those with moderate and severe disabilities.
- The proportion of working-age adults with disabilities who were not in the labour force fell from 51% in 1986 to 44% in 1991; about six in ten of these adults reported that their disabilities completely prevented them from working.
- The proportion of Canadians with disabilities with at least some postsecondary education rose from 31% to 35%. Among those with university degrees, 67% were employed, compared with 87% of university-educated Canadians without disabilities.

Questions on barriers to employment – related to being hired, fired or promoted, and

changing jobs – were also asked of all respondents, regardless of their current employment status. Not surprisingly, the greater the severity of disability, the higher the employment barrier.

*Adults with disabilities: their employment and education characteristics* (Catalogue 82-554) is available for \$60 from Marketing Division, Sales and Service, Statistics Canada, Ottawa K1A 0T6; or call toll-free 1-800-267-6677; fax (613) 951-1584. □

### *HRM Project now publishing findings*

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Findings from one of the most extensive studies on human resource management (HRM) in Canada are now available. The HRM Project, initiated by the now-defunct Economic Council of Canada and continued under the aegis of the Industrial Relations Centre at Queen's University, uses a multi-disciplinary approach to analyze HRM trends in Canada and assess their implications for economic competitiveness and the labour market. The research addresses three basic issues: the HRM strategies adopted by firms in response to the changing business and technological environment; the relationship between HRM strategies and firm performance; and, the impact of HRM strategies on employment patterns in Canada's labour market.

Underlying the research is the belief that government labour and economic policies can be effective only if they are based on a realistic understanding of the internal labour markets of firms. The Project team has, therefore, undertaken a wide variety of information-gathering activities to acquire the background knowledge needed by policy-makers. The outputs are based on the results of three surveys undertaken by the Project, as well as other data sources, and include discussion papers, analytical reports, and an overview. A final report is slated for publication in the spring of 1994.



## Special surveys

Many of the reports are based on data collected from three specially-commissioned surveys: Working With Technology Survey II (WWTS), Human Resources Practices Survey (HRPS), and the Steelworkers Survey.

The WWTS, conducted in late 1991 and covering the period 1986-1991, is a follow-up to an almost identical survey undertaken by the Economic Council in 1985. Thus, the WWTS provides a longitudinal database on the use of computer-based technologies and their impact on a firm's internal labour market, with particular reference to planning the introduction of new technologies, the hiring and training of staff, and collective bargaining. An analytical report based on the results – *Innovation at Work, 1980-1991* – was released in April 1993.

The HRPS, conducted in early 1993, collected data on HRM practices and policies at the establishment level in four industry groups. The information is used to identify the factors that shape HRM practices and the effect of those practices on both employees and individual establishments. The topics covered include labour-management relations, employee participation, job design, training, compensation, family care, and establishment performance.

The Steelworkers Survey of over 200 local officials, conducted in mid-1993, covers the extent of firm reorganization, union involvement in planning and implementing the reorganization, and the resultant effects on the membership.

## Reports and papers

The HRM Project is presently scheduled to produce 15 reports that draw on the survey results as well as data from other sources. A summary report highlights the research conclusions and draws out policy implications for workers, employers and govern-

ments; a companion volume provides a more in-depth treatment of the research findings. The remaining reports fall into three basic categories – HRM strategies, labour market impact, and company performance – although some overlap is inevitable.

*HRM and invention* investigates a firm's development of new technologies in relation to its management of scientific and technical personnel, while *Collective bargaining and HRM innovations* examines the way unions affect innovation in the workplace. An associated report, *Firm-level responses to environmental change*, uses case studies to assess labour and management response to restructuring and the HRM policies that arise from the ensuing pressure.

*Organizational innovation* examines firm-level innovation over the last decade in such areas as communication, decision-making, job design and compensation, and discusses the relationship between the introduction of new organizational forms and other characteristics of the organization. A related study, *Technological and organizational change*, looks at the diffusion of new computer-based technologies within the firm and its effect on the internal labour market.

*HRM strategies and non-standard employment* tests the hypothesis that a move towards a "core-contingent" model of HRM is driving the increase in non-standard employment (part-time, short-term, temporary work). It also examines the implications of non-standard work for both internal and national labour markets. These new HRM practices raise issues concerning *Firm level flexibility and security*, that is, ways to balance the firm's need to be flexible in response to change (as manifested, for instance, by "contracting-out" policies) and the employees' need for job security. The report examines how these competing requirements have been handled in unionized manufacturing industries, as well as how the trade-off is shifting.

*Training policy* provides an inventory of government programs that encourage firms to engage in employee training, and reviews present literature on the effect of training. It also analyzes employer investment in training and training initiatives in various sectors of the economy. *Employer-based training* focuses on the way that employers' training decisions are related to their general HRM strategies.

And reflecting the fact that it is not just the business environment that makes the workplace a more complicated place than it once was, *Work and family* examines HRM responses to the conflicting responsibilities of working parents.

*HRM and corporate competitive strategies* offers a review of the literature on the issue of performance, while the empirically-based *Compensation policies* surveys alternative pay systems and benefit packages to assess their effect on job stability and firm performance.

*Cross-country performance* compares Canadian HRM trends and policies with those in other countries, with particular emphasis on the United States. And, by analyzing data from a new survey of HRM practices in Atlantic Canada, *HRM and firm performance* seeks to identify the relationship between HRM and the performance of the firm, with reference to current literature on the topic.

For more information about the HRM Project, contact Gordon Betcherman at (613) 567-7500, or fax (613) 567-7640. □

### *New demographic report assesses labour market challenge facing Mexico*

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In its special feature section, the 1993 edition of *Report on the demographic situation in Canada* tackles a hot topic: Mexico. With the

collaboration of Mexican demographers, the author analyzes recent major changes in the Mexican population, compared with the Canadian population, and describes the nature and magnitude of those changes and their implications for growth. The report takes particular care to illuminate Mexico's high level of fertility, mobility and urbanization.

Among the report's findings are:

- While the growth of fertility has slowed down, Mexico's population will exceed 100 million by the year 2000, almost eight times greater than the 13 million recorded at the beginning of this century.
- Life expectancy in Mexico has now reached the equivalent of Canadian life expectancy in the 1950s.
- Mexico City itself is home to more people than the 25 Canadian metropolitan areas combined.
- The most salient feature of the Mexican population is the extremely rapid increase in the working-age population.
- If recent trends continue, by the year 2000, almost 12% of the Mexican workforce will probably be working in the United States.

Part one of the *Report on the demographic situation in Canada* assesses the general state of population trends in Canada. It provides analysis of growth, migration, composition of the population, nuptiality, and fertility. Particular emphasis is placed on the fertility of various cohorts and internal migration between census metropolitan areas (CMAs). Part one also provides new Statistics Canada population estimates and explains the reasons for the recent revisions.



*Report on the demographic situation in Canada, 1993* (Catalogue 91-209E) will be available soon for \$26.00 from Marketing Division, Sales and Service, Statistics Canada, Ottawa K1A 0T6; fax (613) 951-1584. Or call toll free 1-800-267-6677. □

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## Conference report

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### *Summary report of international conference on unpaid work now available*

In April 1993, Statistics Canada and Status of Women Canada jointly hosted a three-day conference to discuss measuring the volume and value of work done outside the traditional market economy. The summary report of the "International conference on the measurement and valuation of unpaid work" is now available; a précis is presented below.

#### *Social issues*

Much of the discussion during the conference centred on technical questions about challenges faced in developing and testing various approaches and surveys. In addition, the needs of the user community were also discussed by three speakers who addressed some of the reasons why data on unpaid work need to be vastly improved.

**Evelyn Shapiro**, of the University of Manitoba, stated that researchers need to know why people perform certain types of unpaid work and how much they contribute to different types of activities (for example health care of the elderly, day care of the young) in order to estimate the value of that work to society and to the workers themselves. In addition to the usual socio-demographic and economic information, it is important to gather data on such topics as whether employers encourage volunteer work; the amount of time spent doing unpaid

or volunteer work; personal expenses incurred; the relationship to the care recipient; and the effect of caregiving on income and employment opportunities (for example forgoing promotions or quitting work altogether).

Shapiro also stressed the importance of measuring unpaid work over time, so as to assess trends. She said governments, in particular, need this type of information so they can estimate the potential cost of replacing unpaid workers with paid workers and identify new sources of unpaid workers.

**Duncan Ironmonger** of the University of Melbourne (Australia) maintained that, although it is invisible, the household economy is growing so rapidly that it will soon outstrip the more traditional paid economy. He estimated that the household economy accounts for about half of all economic activity, and argued that it gains in strength as the importance of industrial production to the economy subsides. Ironmonger cited several other reasons to support the compilation of household economy statistics: to help government policies correspond to reality by recognizing the extent of work done by the household, to identify productive technologies, to develop labour policies as well as tax and welfare reform, and to protect women's interests.

**Jamie Cassels**, of the law faculty at the University of Victoria, discussed the close relationship between unpaid labour and justice. He pointed out that historically, the legal system has not valued women's household work, and that ignoring unpaid work in legal decisions contributes to the feminization of poverty. However, recent legal findings that compensation is owed to a stay-at-home partner have helped to build momentum for change. Cassels added that continuing research work is important because it quickly finds its way into the courts and generally benefits the less powerful members of society.



### Data issues

Three speakers provided background on statistical work currently underway in the international community. They presented different perspectives on the best method of valuing unpaid work, but all concurred that measurement is essential.

**Ann Chadeau**, of the Organisation for Economic Co-operation and Development (OECD), described some of the research on household work and production being done by member countries. An information network on non-market household production shares information on efforts underway to measure unpaid work. Contributors to the network have also produced a bibliography of 250 titles covering subjects such as time-use data, national accounting information, and microdata. Chadeau said it is important to know the monetary value of unpaid work. As an example, she pointed to the rising level of household care for the elderly, which transfers health services from the market to the household economy and results in a definite cost to the caregiver (most often a woman). A number of countries are now estimating, or will soon begin to estimate, the volume and value of unpaid household work. Methods they have used to value unpaid work vary greatly: some countries have suggested setting up a satellite account – separate from national accounts – rather than integrating household work estimates into their system of national accounts. In its Spring 1993 issue, *OECD economic studies* published an article on non-market production, illustrating how it should be treated in reference to a system of national accounts. Chadeau said the OECD hopes ultimately to formulate standards for valuating household production.

**Luisella Goldschmidt-Clermont**, of the Université Libre de Bruxelles in Belgium, also discussed valuation methodologies,

explaining that the output and input methods are the two basic variants used. The output method reflects the relative productivity of the household by attaching to the goods and services it produces the same price that would be paid for them in the market economy. The input method ascribes to the unpaid work the wage rate of market labour. Although she prefers the output method, Goldschmidt-Clermont said that the choice of valuation methodology depends on the uses to which it will be put. Output (productivity) based valuations provide information for policy development, national accounts estimates, and macro-economic analysis; on the other hand, input (wage) based valuations are useful for the analysis of individual households and the settlement of legal disputes.

**Andrew Harvey**, with St. Mary's University and the United Nations Institute for Training and Research on the Advancement of Women (INSTRAW), stated that women's economies are invisible because the instruments for measuring growth have ignored unpaid work, even though women put in more hours of paid and unpaid work combined than men (except in North America). Time-use studies help redress the balance by measuring how people spend their productive time, whether paid or unpaid, but there is not yet general agreement on the definition of unpaid work. INSTRAW has organized some pilot projects on time-use studies in several countries, and hopes eventually to establish a system for measuring and valuing unpaid work in both industrialized and developing countries.

### What's next?

The conference wrapped up with another three speakers' "visions on the future." Each addressed a different concern – the social, the statistical, and the economic.

**Betty Havens**, Assistant Deputy Minister of the Manitoba Department of Health, said it is imperative that problems of definition and valuation be solved. In reference to health care, she predicted that society will soon see the elderly taking care of the elderly. She observed that people over 65, of whom the majority are women, are the main consumers of health care; however, 80% of health-care services to the elderly are provided by informal networks, where the main caregivers are women. Havens argued that the informal caregiver must be supported by government services and programs such as education, in-home technology and training, and the reform of the pension system. She proposed that employers be asked to introduce elder-care leave as an employment benefit.

**Regula Herzog**, of the University of Michigan, discussed the different types of methodologies available for measuring time-use. She explained their limitations, saying that respondents will often adopt their own meanings for terms used in a survey if those terms are not clearly defined; furthermore, the reporting of activities that are conducted simultaneously, such as meal preparation and child care, can result in over- or under-estimating the time spent on them. She suggested that further research be done to identify measurement problems and discover how to change survey techniques to overcome the limitations of "stylized" measurement.

**Robert Eisner**, a U.S. economist, estimated that conventional GDP figures under-value a nation's economic activity by 25% to 50% because they exclude most household production. Underestimating household production exaggerates market productivity and fails to capture the consequences of women's movement between home and the labour force. Outdated measures of non-market activities may also be the cause of a current concern in the economic arena, that is, declining private household saving and investment. For example, since economists do not consider the purchase of durable goods like VCRs to be domestic investment, household wealth may be understated. (Ownership of a VCR also changes entertainment consumption patterns and therefore affects the market economy.) Eisner supported the labour input method of valuation, saying that the value of unpaid household work should be calculated on the basis of comparable work performed in the market economy.

A descriptive summary of presentations and discussions during the "International conference on the measurement and valuation of unpaid work," is available. Copies of the full proceedings, containing reprints of the papers presented and reports from the workshops, will be available in the spring. For information, contact Pat Grainger at (613) 951-4578, or Lise Quenneville at (613) 951-2829. □



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*This index lists articles published in Perspectives on labour and income since its inception (Summer 1989). It is updated once a year and published in the Winter issue.*

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## Key labour and income facts

The following selection of labour and income indicators is drawn from 11 sources and includes published and unpublished annual data. These indicators appear in every issue.

The latest annual figures are always shown; as results become available, the indicators are updated so that every issue contains new data. An indicator updated or revised since the last issue is "flagged" with an asterisk.

### Data sources

The indicators are derived from the following sources:

- 1-13 & 15 Labour Force Survey**  
Frequency: Monthly  
Contact: Doug Drew (613) 951-4720
- 14 Survey of Consumer Finances**  
Frequency: Annual  
Contact: Kevin Bishop (613) 951-2211
- 16 Absence from Work Survey**  
Frequency: Annual  
Contact: Nancy Brooks (613) 951-4589
- 17 National Work Injuries Statistics Program**  
Frequency: Annual  
Contact: Joanne Proulx (613) 951-4040
- 18 Help-wanted Index**  
Frequency: Monthly  
Contact: André Picard (613) 951-4045
- 19-20 Unemployment Insurance Statistics Program**  
Frequency: Monthly  
Contact: André Picard (613) 951-4045

- 21-28 Survey of Employment, Payrolls and Hours**  
Frequency: Monthly  
Contact: Cindy Ingalls (613) 951-4090
- 29-31 Major wage settlements, Bureau of Labour Information (Human Resources and Labour Canada)**  
Frequency: Quarterly  
Contact: Information (819) 997-3117
- 32-34 Labour income (Revenue Canada, Taxation, Survey of Employment, Payrolls and Hours and other surveys)**  
Frequency: Quarterly  
Contact: Ed Bunko (613) 951-4048
- 35-45 Survey of Consumer Finances**  
Frequency: Annual  
Contact: Kevin Bishop (613) 951-2211
- 46-52 Household Facilities and Equipment Survey**  
Frequency: Annual  
Contact: Penny Barclay (613) 951-4634
- 53-54 Small area and administrative data**  
Frequency: Annual  
Contact: Customer Services (613) 951-9720

Notes and definitions of certain indicators are given at the end of the table.

### Additional data

The table provides, at the most, two years of data for each indicator. A longer time series (generally 10 years) for this set of indicators can be obtained, on paper or diskette, at a cost of \$50. (A more extensive explanation of the indicators is also available.) This 10-year data set is updated quarterly. For information, contact Jeannine Usalcas at (613) 951-6889; fax (613) 951-4179.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>Labour market</b>								
1	Labour force	'000	1991	13,757	241	64	422	327
			1992	13,797	236	64	416	331
	Change	%		0.3	-2.2	1.1	-1.4	1.2
2	Participation rate	%	1991	66.3	55.3	65.1	61.3	58.6
			1992	65.5	53.6	65.8	59.9	59.0
3	Employed	'000	1991	12,340	197	53	371	286
			1992	12,240	188	53	361	289
	Change	%		-0.8	-4.4	0.1	-2.6	1.1
4	Proportion of employed working part time	%	1991	16.4	12.3	16.2	17.0	15.3
			1992	16.8	13.5	16.4	17.5	15.6
5	Proportion of part-timers wanting full-time work	%	1991	27.7	59.1	39.3	38.6	39.8
			1992	32.5	62.1	43.4	45.5	45.9
6	Unemployed	'000	1991	1,417	44	11	51	42
			1992	1,556	48	11	55	42
	Change	%		9.9	7.2	6.2	7.8	1.9
7	Official unemployment rate	%	1991	10.3	18.4	16.8	12.0	12.7
			1992	11.3	20.2	17.7	13.1	12.8
<b>Alternative measures of unemployment</b>								
8	Unemployed 14 or more weeks as a proportion of the labour force	%	1991	4.6	9.3	6.3	5.2	5.2
			1992	5.5	10.2	7.3	6.0	5.4
9	Unemployment rate:							
	- of persons heading families with children under age 16	%	1991	9.1	17.0	16.9	10.5	11.8
			1992	9.7	19.0	17.4	10.9	11.5
	- excluding full-time students	%	1991	10.1	18.4	17.3	11.9	12.6
			1992	11.0	20.1	17.9	12.7	12.6
	- including full-time members of the Canadian Armed Forces	%	1991	10.2	18.3	16.7	11.7	12.5
			1992	11.2	20.1	17.6	12.8	12.6
	- of the full-time labour force	%	1991	12.4	21.6	20.4	15.0	15.5
			1992	13.6	23.6	21.4	16.6	16.0
	- of the part-time labour force	%	1991	11.8	16.2	10.2	13.9	13.6
			1992	14.1	21.7	12.0	16.7	15.6
	- including discouraged workers and others on the margins of the labour force	%	1991	11.0	22.2	18.4	13.0	14.8
			1992	12.1	24.4	18.7	14.1	14.8

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
3,392	5,276	541	484	1,357	1,652	..	..	1991	'000	1
3,385	5,286	535	480	1,370	1,693	..	..	1992		
-0.2	0.2	-1.2	-1.0	1.0	2.5	..	..		%	
63.4	68.3	66.9	67.1	72.5	66.4	..	..	1991	%	2
62.5	67.3	66.0	66.6	71.9	66.3	..	..	1992		
2,987	4,770	494	449	1,246	1,489	..	..	1991	'000	3
2,953	4,714	484	440	1,240	1,517	..	..	1992		
-1.1	-1.2	-2.0	-1.9	-0.5	1.9	..	..		%	
14.9	16.9	19.2	17.7	15.2	18.0	..	..	1991	%	4
15.1	17.3	19.4	18.4	16.4	18.0	..	..	1992		
36.7	21.8	29.7	31.8	21.3	25.7	..	..	1991	%	5
38.0	29.1	32.8	35.4	27.8	27.9	..	..	1992		
405	506	48	36	111	163	..	..	1991	'000	6
432	572	51	39	130	176	..	..	1992		
6.6	13.0	7.5	10.1	16.9	7.9	..	..		%	
11.9	9.6	8.8	7.4	8.2	9.9	..	..	1991	%	7
12.8	10.8	9.6	8.2	9.5	10.4	..	..	1992		
5.8	4.2	3.9	2.8	3.0	4.1	..	..	1991	%	8
6.8	5.4	4.0	3.4	3.8	4.5	..	..	1992		
										9
10.4	8.3	7.4	6.6	7.5	9.0	..	..	1991	%	
10.6	9.1	8.1	7.3	8.5	9.1	..	..	1992		
11.9	9.3	8.7	7.2	8.0	9.7	..	..	1991	%	
12.6	10.3	9.2	8.0	9.3	10.3	..	..	1992		
11.9	9.5	8.7	7.3	8.2	9.8	..	..	1991	%	
12.7	10.8	9.5	8.2	9.4	10.4	..	..	1992		
14.5	11.2	11.5	9.9	9.5	12.2	..	..	1991	%	
15.3	12.8	12.4	11.4	11.3	12.8	..	..	1992		
13.1	11.6	11.0	10.5	11.1	10.6	..	..	1991	%	
15.3	14.8	12.9	9.6	13.1	11.9	..	..	1992		
13.3	9.9	9.3	7.9	8.5	10.2	..	..	1991	%	
14.2	11.3	10.2	8.8	9.9	10.7	..	..	1992		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
10	Underutilization rate based on hours lost through unemployment and underemployment	%	1991 1992	13.0 14.3	22.3 24.3	20.9 22.0	15.7 17.5	16.4 17.1
11	Proportion unemployed six months or longer	%	1991 1992	23.3 28.1	28.2 29.3	-- --	21.1 23.9	21.4 22.2
<b>Other labour market indicators</b>								
*12	Employment/population ratio for persons aged:							
	- 15 to 24 years	%	1991 1992	56.2 53.5	35.5 32.4	51.7 49.4	50.4 48.0	46.1 46.9
	- 25 to 64 years	%	1991 1992	71.2 70.0	56.5 53.7	66.8 67.1	66.9 64.5	63.3 63.5
	- 65 years and over	%	1991 1992	6.6 6.4	2.2 3.1	5.9 7.2	3.1 3.6	3.7 4.0
*13	Employment by major class of worker:							
	- employees	'000	1991 1992	10,490 10,372	169 162	43 43	322 314	248 253
	- self-employed	'000	1991 1992	1,787 1,807	28 26	10 10	48 46	37 35
*14	Men working full time, full year	'000	1990 1991	5,301 5,126	75 68	20 18	154 143	115 115
	Women working full time, full year	'000	1990 1991	3,434 3,419	49 45	13 13	102 93	74 79
15	Days lost per full-time worker per year through illness or for personal reasons	days	1991 1992	9.4 9.2	10.6 10.7	8.0 7.9	9.7 9.0	9.4 8.9
16	Proportion of paid workers absent two or more consecutive weeks because of illness or accident	%	1991 1992	6.3 5.6	5.0 4.1	4.8 4.0	5.6 5.4	6.5 6.0
17	Workers receiving Workers' Compensation for time-loss injuries	'000	1990 1991	594 521	10 9	3 2	13 13	13 12
	Change	%		-12.4	-9.1	-11.8	-1.1	-6.7
18	Help-wanted Index (1991 = 100)		1991 1992	100 86	100 88	100 96	100 87	100 82

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
14.9	11.9	12.1	10.7	10.1	12.8	..	..	1991	%	10
15.8	13.6	13.1	12.1	12.1	13.3	..	..	1992		
27.4	22.7	22.3	18.0	17.9	20.9	..	..	1991	%	11
33.1	29.8	23.6	21.0	20.4	22.5	..	..	1992		
										12
51.3	59.0	60.8	57.9	62.5	60.1	..	..	1991	%	
48.8	55.3	58.3	54.4	59.7	58.8	..	..	1992		
66.6	73.6	74.4	76.9	76.5	72.5	..	..	1991	%	
65.3	72.2	73.6	76.6	75.3	72.2	..	..	1992		
4.1	7.7	8.5	12.9	10.9	5.3	..	..	1991	%	
4.7	7.0	7.1	12.6	10.1	5.0	..	..	1992		
										13
2,583	4,134	405	331	1,021	1,234	..	..	1991	'000	
2,545	4,068	399	328	1,007	1,253	..	..	1992		
390	619	83	108	214	251	..	..	1991	'000	
394	630	80	102	224	259	..	..	1992		
1,274	2,091	213	196	544	620	..	..	1990	'000	14
1,264	1,981	194	188	534	621	..	..	1991		
844	1,391	126	113	329	390	..	..	1990	'000	
819	1,388	122	114	331	415	..	..	1991		
10.9	9.0	9.3	8.5	7.9	8.7	..	..	1991	days	15
10.7	9.0	8.4	8.1	7.7	8.6	..	..	1992		
7.8	6.0	6.1	5.0	4.9	6.2	..	..	1991	%	16
5.9	5.2	7.8	3.8	5.9	5.8	..	..	1992		
205	184	21	14	46	84	..	1	1990	'000	17
179	155	18	13	39	79	..	1	1991		
-12.7	-15.7	-15.3	-7.4	-15.6	-5.9	..	-6.7		%	
100	100	100	100	100	100	..	..	1991		18
87	87	93	83	76	87	..	..	1992		

See Notes and definitions at end of table.



## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Unemployment insurance								
19	Total beneficiaries	'000	1991	1,365	80	15	63	65
			1992	1,388	81	16	65	67
	Change	%		1.7	1.6	5.0	2.7	2.5
20	Regular beneficiaries without reported earnings	'000	1991	1,024	63	11	46	51
			1992	1,006	63	11	46	51
	Change	%		-1.8	-	4.4	-1.0	-1.0
Earnings (including overtime) and hours								
21	Average weekly earnings in current dollars	\$	1991	531.58	499.24	429.29	476.30	480.62
			1992	549.80	510.65	444.70	491.10	494.39
	Change	%		3.4	2.3	3.6	3.1	2.9
22	Average weekly earnings in 1986 dollars	\$	1991	421.22	413.28	340.98	381.96	386.97
			1992	429.20	418.22	350.43	391.31	395.51
	Change	%		1.9	1.2	2.8	2.5	2.2
23	Average weekly earnings of salaried employees in current dollars	\$	1991	665.75	603.37	560.75	605.37	603.32
			1992	691.04	621.71	599.84	621.34	624.15
	Change	%		3.8	3.0	7.0	2.6	3.5
24	Average weekly earnings of salaried employees in 1986 dollars	\$	1991	527.54	499.48	445.39	485.46	485.76
			1992	539.45	509.18	472.69	495.09	499.32
	Change	%		2.3	1.9	6.1	2.0	2.8
25	Average weekly earnings of hourly paid employees in current dollars	\$	1991	409.98	379.14	284.23	363.17	382.63
			1992	421.51	381.63	285.01	375.98	393.56
	Change	%		2.8	0.7	0.3	3.5	2.9
26	Average weekly earnings of hourly paid employees in 1986 dollars	\$	1991	324.87	313.86	225.76	291.23	303.08
			1992	329.05	312.56	224.59	299.59	314.85
	Change	%		1.3	-0.4	-0.5	2.9	3.9
27	Average weekly hours of hourly paid employees	hrs	1991	30.8	33.8	31.0	31.6	33.3
			1992	30.5	33.5	30.4	31.7	33.1
28	Average weekly overtime hours of hourly paid employees	hrs	1991	0.9	1.2	0.4	0.6	0.7
			1992	0.8	0.9	0.3	0.6	0.7
Major wage settlements								
29	Number of agreements		1991	534	15	4	19	24
			1992	482	10	5	5	14
30	Number of employees	'000	1991	1,331	52	7	29	42
			1992	1,309	27	7	5	30
31	Effective wage increase in base rates	%	1991	3.6	2.3	5.5	0.5	2.5
			1992	2.1	0.1	0.3	1.9	1.6

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
427	391	41	30	90	159	2	2	1991	'000	19
433	400	40	31	97	154	2	2	1992		
1.2	2.4	-2.4	2.8	8.1	-2.7	-1.1	18.7		%	
330	286	28	22	67	116	1	2	1991	'000	20
322	284	26	21	69	108	1	2	1992		
-2.5	-0.5	-7.7	-1.0	2.9	-6.6	-4.0	15.2		%	
518.50	555.83	477.90	465.33	532.04	534.88	634.28	705.85	1991	\$	21
537.13	578.30	488.56	472.35	546.59	549.09	677.86	714.13	1992		
3.6	4.0	2.2	1.5	2.7	2.8	6.8	1.2		%	
410.21	435.60	382.32	370.19	427.00	432.05	..	..	1991	\$	22
417.35	448.29	385.30	371.93	432.43	431.67	..	..	1992		
1.7	2.9	0.8	0.5	1.3	-0.1	..	..		%	
630.62	701.53	611.79	615.88	688.98	660.39	761.59	790.35	1991	\$	23
654.66	733.38	632.38	618.11	703.25	682.99	835.62	813.88	1992		
3.8	4.5	3.4	0.4	2.1	3.4	9.7	3.0		%	
498.91	549.79	489.43	489.96	552.95	533.43	..	..	1991	\$	24
508.67	568.51	498.72	486.70	556.37	536.94	..	..	1992		
2.0	3.4	1.9	-0.7	0.6	0.7	..	..		%	
413.58	424.56	358.49	327.46	377.07	433.80	467.01	583.65	1991	\$	25
429.49	436.08	365.83	336.67	387.98	441.91	494.62	576.41	1992		
3.9	2.7	2.1	2.8	2.9	1.9	5.9	-1.2		%	
327.20	332.73	286.79	260.51	302.62	350.40	..	..	1991	\$	26
333.71	338.05	288.51	265.09	306.95	347.41	..	..	1992		
2.0	1.6	0.6	1.8	1.4	-0.9	..	..		%	
31.8	30.8	30.2	28.0	29.5	29.4	31.3	33.5	1991	hrs	27
31.5	30.6	30.0	28.3	29.3	29.2	31.0	33.1	1992		
0.8	0.9	0.7	0.7	1.3	0.9	1.9	3.4	1991	hrs	28
0.7	0.9	0.7	0.7	1.1	0.8	2.2	2.6	1992		
104	154	41	5	43	56	..	..	1991		29
84	169	17	8	43	66	..	..	1992		
450	269	75	11	56	72	..	..	1991	'000	30
464	343	19	13	76	170	..	..	1992		
3.2	5.8	2.4	4.4	5.3	5.0	..	..	1991	%	31
1.2	2.4	2.4	3.4	3.6	3.3	..	..	1992		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
Labour income								
*32	Labour income in current dollars	\$ million	1991	376.7	5.1	1.2	9.4	7.4
			1992	388.1	5.1	1.2	9.6	7.7
	Change	%		3.0	-	4.6	2.3	3.6
*33	Labour income per employee in current dollars	\$	1991	35,000	29,900	27,300	28,900	29,500
			1992	36,500	31,300	28,200	30,300	29,800
	Change	%		4.2	4.6	3.4	4.7	1.0
*34	Labour income per employee in 1986 dollars	\$	1991	27,700	24,800	21,700	23,200	23,800
			1992	28,500	25,600	22,200	24,100	23,900
	Change	%		2.7	3.5	2.6	4.1	0.4
35	Net income from self-employment as a proportion of money income	%	1990	5.2	3.6	7.6	5.4	4.9
			1991	5.5	3.7	6.6	4.4	4.2
Earnings of full-time, full-year workers								
36	Average earnings of men working full time, full year	\$	1990	36,900	30,000	27,100	33,200	32,500
			1991	38,600	33,400	30,500	35,300	34,700
	Change	%		4.6	11.2	12.8	6.2	6.9
37	Average earnings of women working full time, full year	\$	1990	24,900	21,900	21,700	24,000	21,400
			1991	26,800	24,500	24,700	23,200	23,000
	Change	%		7.7	11.8	14.0	-3.1	7.4
38	Ratio of female-to-male earnings	%	1990	67.6	73.0	80.0	72.1	65.8
			1991	69.6	73.4	80.8	65.8	66.1
Family income								
39	Average family income	\$	1990	51,600	40,800	39,700	44,400	42,400
			1991	53,100	41,700	42,800	45,100	44,300
40	Median family income	\$	1990	46,100	35,300	34,900	39,900	38,100
			1991	46,700	36,600	38,000	39,400	38,700
41	Average income of unattached individuals	\$	1990	22,600	19,200	17,700	20,000	18,400
			1991	22,500	18,200	16,500	19,100	19,900
42	Median income of unattached individuals	\$	1990	17,500	13,500	13,600	16,500	13,900
			1991	17,300	13,100	12,200	14,700	15,100
43	Average family taxes	\$	1990	10,200	6,500	6,000	7,900	7,200
			1991	10,500	6,700	7,000	8,100	7,600
44	Average family income after tax	\$	1990	41,400	34,300	33,700	36,500	35,200
			1991	42,600	35,000	35,800	37,000	36,700

See Notes and definitions at end of table.



## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
87.4	160.6	12.3	9.6	36.2	45.3	0.5	1.2	1991	\$ million	32
90.2	164.9	12.6	9.9	37.3	47.4	0.6	1.2	1992		
3.2	2.7	2.7	2.6	2.9	4.6	8.3	1.8		%	
33,200	38,000	29,700	28,300	34,000	35,100	..	..	1991	\$	33
34,700	39,700	31,200	29,500	35,300	36,400	..	..	1992		
4.5	4.5	4.9	4.4	3.7	3.6	..	..		%	
26,300	29,800	23,800	22,500	27,300	28,400	..	..	1991	\$	34
26,900	30,800	24,600	23,200	27,900	28,600	..	..	1992		
2.6	3.4	3.4	3.3	2.2	0.8	..	..		%	
4.5	5.4	5.3	8.7	5.9	4.9	..	..	1990	%	35
4.3	5.7	6.7	10.3	6.4	5.5	..	..	1991		
35,500	39,300	30,900	28,300	36,000	39,700	..	..	1990	\$	36
36,700	41,500	31,900	31,900	39,300	38,700	..	..	1991		
3.3	5.6	3.4	12.8	9.3	-2.5	..	..		%	
24,400	25,900	22,400	21,300	24,100	26,500	..	..	1990	\$	37
25,700	29,000	23,800	22,100	25,300	27,100	..	..	1991		
5.7	11.7	6.5	3.9	5.1	2.5	..	..		%	
68.5	66.0	72.5	75.4	67.0	66.8	..	..	1990	%	38
70.1	69.8	74.7	69.4	64.5	70.2	..	..	1991		
47,200	57,000	47,200	44,200	52,000	54,400	..	..	1990	\$	39
48,600	58,600	46,600	45,900	55,600	54,900	..	..	1991		
42,000	50,900	42,900	38,400	47,200	49,200	..	..	1990	\$	40
42,700	52,000	41,300	40,900	48,100	50,600	..	..	1991		
20,300	24,800	20,200	19,800	23,800	23,900	..	..	1990	\$	41
20,700	24,700	20,400	20,000	23,500	22,600	..	..	1991		
14,500	19,800	15,800	15,300	19,200	19,000	..	..	1990	\$	42
15,200	20,000	16,000	14,600	19,100	18,200	..	..	1991		
9,600	11,500	8,500	8,100	9,900	10,900	..	..	1990	\$	43
10,100	11,800	8,300	8,600	11,000	10,600	..	..	1991		
37,500	45,500	38,700	36,100	42,100	43,600	..	..	1990	\$	44
38,500	46,900	38,300	37,400	44,500	44,300	..	..	1991		

See Notes and definitions at end of table.

## Key labour and income facts

No.		Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
45	Proportion below the low income cut-offs (1986 base):							
	- families	%	1990 1991	12.1 13.1	14.3 16.4	10.2 9.9	12.0 12.9	12.7 12.3
	- unattached individuals	%	1990 1991	34.1 36.5	38.9 41.3	31.9 40.5	27.6 35.6	34.6 35.6
	- persons (population)	%	1990 1991	14.6 16.0	15.6 17.6	12.5 13.2	13.4 15.5	14.3 14.3
	- children (less than 18 years)	%	1990 1991	16.9 18.3	19.6 20.3	13.7 14.5	16.5 20.2	17.1 18.1
	- elderly (65 years and over)	%	1990 1991	19.3 20.0	16.2 16.8	16.2 13.7	13.0 16.1	13.9 14.3
<b>Households and dwellings</b>								
46	Estimated number of households and dwellings	'000	1991 1992	9,873 10,056	177 177	47 46	326 329	251 256
47	Average household income	\$	1990 1991	45,300 46,100	38,400 39,200	35,000 37,700	39,800 39,800	38,200 40,200
48	Proportion of households with:							
	- VCRs	%	1991 1992	68.6 73.8	67.8 74.6	59.6 69.6	67.8 75.4	66.5 73.4
	- microwaves	%	1991 1992	73.5 76.0	65.0 68.9	63.8 69.6	72.4 76.9	72.5 76.2
	- two or more automobiles	%	1991 1992	25.1 24.6	13.6 11.9	21.3 23.9	20.2 20.1	20.3 19.9
	- vans and trucks	%	1991 1992	22.2 26.8	34.5 36.2	31.9 32.6	25.8 28.9	30.3 34.0
	- air conditioners	%	1991 1992	26.7 26.7	-- --	-- --	3.7 4.9	6.4 6.6
49	Proportion of owner-occupied dwellings	%	1991 1992	63.7 63.1	78.5 78.5	70.2 69.6	71.8 71.4	76.5 75.4
50	Proportion of all owner-occupied dwellings that are mortgage free	%	1991 1992	51.3 50.6	71.2 68.3	60.6 53.1	56.8 57.0	56.2 56.0
51	Dwellings in need of repair as a proportion of all occupied dwellings	%	1991 1992	24.5 26.7	30.5 31.1	27.7 28.2	31.9 34.3	34.7 32.4
52	Median rent-to-income ratio	%	1991 1992	21 22	16 16	23 23	21 22	20 19

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
										45
14.5	9.8	14.4	14.0	12.9	11.9	..	..	1990	%	
15.9	11.2	17.1	13.4	13.1	11.1	..	..	1991	%	
44.0	28.5	35.7	29.3	32.6	31.0	..	..	1990	%	
44.2	31.8	38.2	34.5	33.4	35.7	..	..	1991	%	
18.0	11.7	17.8	16.6	15.4	14.6	..	..	1990	%	
19.2	13.5	21.1	17.1	15.9	15.1	..	..	1991	%	
18.1	14.7	22.0	20.4	18.3	16.9	..	..	1990	%	
19.7	17.0	26.9	21.0	18.7	14.5	..	..	1991	%	
28.8	15.8	19.8	10.0	19.2	18.0	..	..	1990	%	
26.1	18.0	21.4	11.0	18.7	20.7	..	..	1991	%	
2,618	3,585	389	359	898	1,225	..	..	1991	'000	46
2,656	3,647	396	359	912	1,278	..	..	1992	'000	
40,500	50,600	40,500	38,200	46,200	47,100	..	..	1990	\$	47
41,600	51,500	39,700	39,600	48,700	46,000	..	..	1991	\$	
										48
64.9	71.0	66.3	64.3	72.6	68.8	..	..	1991	%	
69.1	76.8	71.2	69.4	78.4	73.3	..	..	1992	%	
70.6	73.8	75.1	78.6	80.2	74.0	..	..	1991	%	
72.9	77.7	75.5	81.3	81.0	73.6	..	..	1992	%	
21.4	27.4	26.0	23.1	28.8	27.5	..	..	1991	%	
20.9	27.9	22.2	21.7	28.4	25.0	..	..	1992	%	
12.8	18.2	27.0	40.9	38.3	30.7	..	..	1991	%	
17.4	23.3	31.1	44.6	43.4	35.1	..	..	1992	%	
15.2	48.0	45.0	32.3	10.1	8.5	..	..	1991	%	
14.0	48.6	49.0	34.3	10.0	7.5	..	..	1992	%	
56.8	64.1	68.4	72.4	64.4	65.1	..	..	1991	%	49
55.0	63.9	67.4	71.6	65.5	65.7	..	..	1992	%	
47.5	50.2	55.3	63.1	48.8	52.0	..	..	1991	%	50
47.3	48.0	56.2	60.3	47.9	54.5	..	..	1992	%	
21.1	24.0	29.6	25.9	28.2	23.0	..	..	1991	%	51
25.1	25.4	32.1	30.6	28.7	24.8	..	..	1992	%	
20	22	21	22	21	24	..	..	1991	%	52
20	23	23	21	21	25	..	..	1992	%	

See Notes and definitions at end of table.



## Key labour and income facts

No.	Unit	Year	Canada	Nfld.	P.E.I.	N.S.	N.B.
<b>*53 Labour force income profile</b>							
Number of taxfilers	'000	1991	18,786	378	87	613	503
Income:							
Number reporting	'000	1991	18,711	376	87	610	501
Amount	\$ million	1991	470,165	7,196	1,730	13,392	10,264
Median	\$	1991	19,300	14,100	16,000	16,800	15,600
Canadian index (median income)	%	1991	100.0	73.1	82.9	87.0	80.8
Labour force income:							
Number reporting	'000	1991	14,231	291	68	451	372
Amount	\$ million	1991	357,250	5,745	1,308	10,066	7,809
Employment income:							
Number reporting	'000	1991	13,911	278	67	440	362
Amount	\$ million	1991	341,191	4,809	1,130	9,357	7,046
Median	\$	1991	19,500	10,300	11,700	16,600	14,300
Canadian index (median employment income)	%	1991	100.0	52.8	60.0	85.1	73.3
Self-employment income:							
Number reporting	'000	1991	1,915	31	12	52	35
Amount	\$ million	1991	20,231	222	100	667	328
Unemployment Insurance benefits:							
Number reporting	'000	1991	3,410	148	29	142	139
Amount	\$ million	1991	16,059	936	178	709	763
<b>*54 Economic dependency profile</b>							
Transfer payments:							
Amount	\$ million	1991	80,086	2,004	459	2,926	2,451
Employment income	\$ million	1991	341,191	4,809	1,130	9,357	7,046
Economic dependency ratio (EDR)		1991	23.47	41.66	40.65	31.27	34.78
Canadian index (EDR)	%	1991	100.0	177.5	173.2	133.2	148.2
Unemployment Insurance benefits:							
Amount	\$ million	1991	16,059	936	178	709	763
Contribution to EDR	%	1991	4.71	19.47	15.70	7.58	10.83
Family Allowance benefits:							
Amount	\$ million	1991	2,684	64	14	89	75
Contribution to EDR	%	1991	0.79	1.32	1.23	0.95	1.06
Federal sales tax credits:							
Amount	\$ million	1991	2,530	65	14	92	80
Contribution to EDR	%	1991	0.74	1.36	1.22	0.98	1.14
Child Tax Credit benefits:							
Amount	\$ million	1991	2,240	64	14	81	72
Contribution to EDR	%	1991	0.66	1.34	1.23	0.87	1.03
Old Age Security benefits:							
Amount	\$ million	1991	10,960	184	55	379	298
Contribution to EDR	%	1991	3.21	3.83	4.89	4.05	4.23
CPP/QPP benefits:							
Amount	\$ million	1991	13,336	199	55	483	340
Contribution to EDR	%	1991	3.91	4.13	4.88	5.16	4.83
Other pension benefits:							
Amount	\$ million	1991	18,024	227	68	662	426
Contribution to EDR	%	1991	5.28	4.72	6.01	7.08	6.05
Non-taxable income/provincial tax credits:							
Amount	\$ million	1991	14,251	264	62	431	396
Contribution to EDR	%	1991	4.18	5.50	5.48	4.61	5.62

See Notes and definitions at end of table.

## Key labour and income facts

Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Year	Unit	No.
53										
4,770	7,021	761	643	1,698	2,262	19	32	1991	'000	
4,749	6,994	759	641	1,691	2,253	18	32	1991	'000	
109,336	193,011	16,621	13,990	44,274	58,872	518	961	1991	\$ million	
17,800	21,500	16,900	16,700	19,900	20,000	23,700	22,000	1991	\$	
92.2	111.4	87.6	86.5	103.1	103.6	122.8	114.0	1991	%	
3,509	5,371	554	486	1,376	1,707	17	28	1991	'000	
83,710	146,585	12,044	9,930	34,754	43,970	459	871	1991	\$ million	
3,410	5,264	541	479	1,354	1,671	16	28	1991	'000	
78,728	141,844	11,589	9,583	33,696	42,134	434	842	1991	\$ million	
18,800	21,800	17,000	15,000	19,500	19,900	22,800	23,700	1991	\$	
96.4	111.8	87.2	76.9	100.0	102.1	116.9	121.5	1991	%	
347	693	102	138	245	257	2	2	1991	'000	
4,241	8,292	819	1,025	1,701	2,800	18	16	1991	\$ million	
1,032	1,065	115	87	243	399	4	6	1991	'000	
4,982	4,741	455	347	1,058	1,835	26	29	1991	\$ million	
54										
20,291	30,465	3,247	2,627	5,785	9,692	55	83	1991	\$ million	
78,728	141,844	11,589	9,583	33,696	42,134	434	842	1991	\$ million	
25.77	21.48	28.02	27.41	17.17	23.00	12.64	9.91	1991		
109.8	91.5	119.4	116.8	73.2	98.0	53.9	42.2	1991	%	
4,982	4,741	455	347	1,058	1,835	26	29	1991	\$ million	
6.33	3.34	3.93	3.63	3.14	4.36	5.92	3.42	1991	%	
660	958	114	111	279	309	3	8	1991	\$ million	
0.84	0.68	0.98	1.16	0.83	0.73	0.72	1.00	1991	%	
712	841	114	99	220	286	2	4	1991	\$ million	
0.90	0.59	0.99	1.04	0.65	0.68	0.51	0.52	1991	%	
578	702	115	116	237	250	2	8	1991	\$ million	
0.73	0.49	0.99	1.21	0.70	0.59	0.55	0.96	1991	%	
2,673	4,103	545	487	789	1,439	3	5	1991	\$ million	
3.39	2.89	4.70	5.08	2.34	3.42	0.77	0.56	1991	%	
3,134	5,372	571	502	953	1,718	5	4	1991	\$ million	
3.98	3.79	4.93	5.23	2.83	4.08	1.20	0.52	1991	%	
3,716	7,677	706	580	1,338	2,610	7	6	1991	\$ million	
4.72	5.41	6.10	6.05	3.97	6.19	1.63	0.76	1991	%	
3,835	6,072	626	385	912	1,245	6	18	1991	\$ million	
4.87	4.28	5.40	4.01	2.71	2.95	1.35	2.16	1991	%	

See Notes and definitions at end of table.

## Key labour and income facts

### Notes and definitions

No.	No.
1 Persons aged 15 and over who are employed or unemployed.	13 Employees work for an employer for remuneration, usually in the form of a wage or salary.
2 The labour force as a proportion of the population aged 15 and over.	Self-employed workers are working owners of incorporated or unincorporated businesses with or without paid help.
4 Persons who usually work less than 30 hours per week.	29 Data are for agreements involving bargaining units of 500 or more employees under both federal and provincial jurisdictions.
7 Unemployed as a proportion of the labour force.	32 Labour income comprises gross wages and salaries (including directors' fees, bonuses, commissions, gratuities, taxable allowances and retroactive pay) and supplementary labour income (payments made by employers for the benefit of employees, including contributions to health and welfare schemes, pension plans, Workers' Compensation and Unemployment Insurance).
8 This rate, and rates shown as Indicators 9 and 10, are described in <i>Perspectives on labour and income</i> (Statistics Canada, Catalogue 75-001E) 4, no. 4 (Winter 1992): 35-43.	33 Labour income per employee is calculated using LFS estimates of paid workers excluding those absent the entire reference week without pay.
9 The full-time labour force includes persons working full time, those working part time involuntarily and unemployed persons seeking full-time work.	45 For an explanation of the methodology underlying the low income cut-offs, see <i>Income distributions by size in Canada</i> (Annual, Catalogue 13-207).
The part-time labour force includes persons working part time voluntarily and unemployed persons seeking part-time work.	53-54 Data are derived from tax returns filed in the spring of the year following the reference year. The mailing address at the time of filing determines the province.
Discouraged workers and others on the margins of the labour force are persons who have looked for work in the past six months, but not during the reference week because they believe none is available or because they are waiting for recall or for replies from employers.	Economic dependency ratio:
10 The rate shows hours lost through unemployment (unemployed multiplied by average actual weekly hours) and through underemployment (that is, short-time work schedules and involuntary part-time employment) as a proportion of hours worked plus hours lost.	$\text{EDR} = \frac{\text{Total transfer payments}}{\text{Total employment income}} \times 100$
12 The number of persons employed in an age group expressed as a percentage of the population for that age group.	(Example: For each \$100 in employment income earned by Canadians in 1991, an additional \$23.47 of income was received in the form of transfer payments.)



## *In the works*

*Here are some of the topics to be featured in upcoming issues of Perspectives on labour and income.*

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■ **The labour market: year-end review**

A wrap-up of changes and trends in the labour market in 1993.

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■ **RRSP withdrawals**

In 1991, \$3.1 billion was withdrawn from RRSPs by taxfilers under 65 years of age (24% more than in 1990). Who are the taxfilers that cashed in all or part of their RRSP savings and can the growth in withdrawals be linked to job losses resulting from the recession?

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■ **Youths: waiting it out**

One striking feature of the difficult labour market conditions of the last few years has been the dramatic fall in labour market participation among Canada's youths. This article explores these recent conditions for youths outside both school and the labour force.

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■ **Balancing work and family**

Having children, particularly pre-school children, does not have the same effects on the employment patterns of both parents.

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■ **Training of job losers**

This note examines the training undertaken by workers aged 25 to 54 who have lost their jobs or been laid off. It also compares the characteristics of these trainees with those of unemployed job losers who did not take training during the reference year.

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■ **Occupational training**

Many occupations are changing rapidly, and the people in those occupations have to learn new skills to keep up with demands of the labour market. This article looks at employer-sponsored training by occupation.

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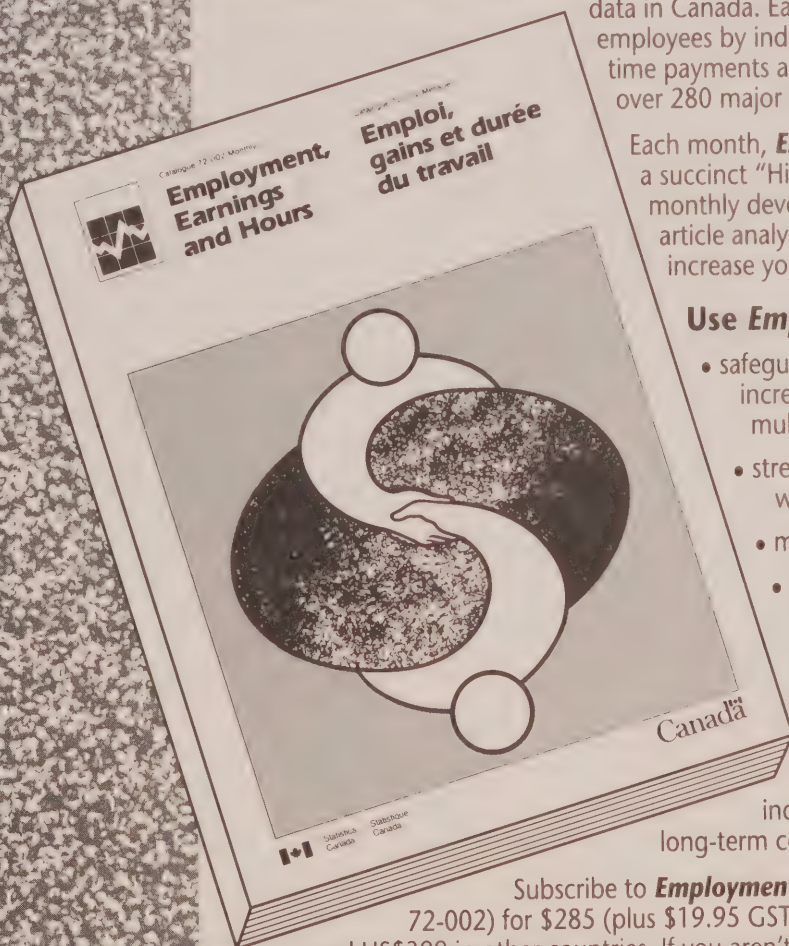
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